

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, APRIL 21, 1877.

No. 1.

THE INDUSTRIALIST.

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Coming.

"What I say unto you, I say unto all: 'Watch! At even, or at midnight, or at the cock-crowing.'"

It may be in the evening,
When the work of the day is done,
And you have time to sit in the twilight
And to watch the sinking sun;
While the long, bright day dies slowly
Over the sea,
And the hour grows quiet and holy
With thoughts of Me;
While you hear the village children
Passing along the street,
Among the thronging footsteps
May come the sound of my feet;
Therefore, I tell you, Watch!
By the light of the evening star,
When the room is growing dusky
As the clouds afar,
Let the door be on the latch
In your home,
For it may be through the gloaming
I will come.

It may be in the midnight,
When 'tis heavy upon the land,
And the black waves are lying dumbly
Along the sand;
When the moonless night draws close,
And the lights are out in the home;
When the fire burns low and red,
And the watch is ticking lonely
Beside the bed;
Though you sleep tired on your couch,
Still your heart must wake and watch
In the dark room;
For it may be that at midnight
I will come.

It may be at the cock-crow,
When the night is dying slowly
In the sky,
And the sea looks calm and holy,
Waiting for the dawn of the golden sun
Which draweth nigh;
When the mists are on the valleys, shading
The river's chill,
And my morning star is fading, fading
Over the hill;
Behold, I say unto you, Watch!
Let the door be on the latch
In your home;
In the chill before the dawning,
Between the night and morning,
I may come.

It may be in the morning,
When the sun is bright and strong,
And the dew is glittering sharply
Over the little lawn,
And the waves are laughing loudly
Along the shore,
And the little birds are singing sweetly
About the door;
With the long day's work before you,
You are up with the sun,
And the neighbors come to talk a little
Of all that must be done;
But remember that I may be the next
To come in at the door,
To call you from your busy work
Forevermore.
As you work, your heart must watch,
For the door is on the latch
In your room,
And it may be in the morning
I will come.

So I am watching quietly
Every day,
Whenever the sun shines brightly
I rise and say,
Surely it is the shining of His face,
And look unto the gate of His high place

Beyond the sea,
For I know He is coming shortly,
To summon me;
And when a shadow falls across the window
Of my room,
Where I am working my appointed task,
I lift my head to watch the door and ask
If he is come!
And the spirit answers softly
In my home,
"Only a few more shadows
And He will come."

Farmers Must Educate.

Edith Engles, of Emporia, Kansas, contributes the following communication to the *Spirit of Kansas*:

Constituting, as we the agricultural classes do, the masses of a nation, and not only the masses of a nation but the very life and vitality of nations, how necessary that we be educated. I do not mean a superficial education, a smattering of the dead languages or of the sciences, or perhaps a history of by-gone ages, but a real practical education that will fit any of us to fill intelligibly and honorably any position in life we may be called to occupy, whether servant or master, laborer or capitalist, farmer or statesman. Then with the foundation, the practical education, let us have all the true accomplishments attainable.

It is not the want of natural ability in the agricultural or laboring classes that makes their calling less genteel than that of other callings and professions, but it is the lack of training, of culture, of knowledge, of refinement; in fact, the lack of thorough, systematic education.

If the rays of the sun were made to penetrate the deep and dark recesses of the mountain gorges, the great masses of ice and snow would be melted, the warm rays would soon penetrate the soil; plants, flowers and trees would spring up, and there would be a wealth of vegetation where before there existed but the masses of snow.

What sunshine is to plant life, knowledge is to the mind and soul. Shed upon the human mind and soul the refining and elevating rays of knowledge, and where once existed but a dwarfed and stunted plant, will now exist the flowering tree. When, then, the minds or intellectual powers of the class constituting the masses of a nation are expanded, developed, educated, new and higher desires, higher aspirations and higher impulses will be brought into existence, and as it is impossible for a healthy and sickly plant to exist under just the same conditions, the sickly must give way to the healthy one, so will it be impossible for the baser and more ignoble desire to exist where the new and higher desires reign. Then, as ignorance vanishes under the rays of knowledge, so will its accompanying evils of selfishness, injustice, tyranny and oppression vanish.

American Schools.

Wendell Phillips is not satisfied with abusing Hayes and his Cabinet. He has also been devoting some attention to our public school system, and at a recent meeting of the American Social Science Organization he said: "The fact is many young

people, graduates of our public schools, are not capable of doing any work for which any one should pay a dollar. Thousands of our public school graduates cannot write a decent letter at fifteen, nor even read a newspaper well. The old new England system, which made a boy work six months by his father's side on the farm or in the workshop after he had been six months at school, was better than the present one. From such a system it was possible to get such a man as Theodore Parker. Now the public school hands a child to its parents with no means of earning its bread."

Mr. Phillips said further that he was ashamed of the schools of Boston when he compared their work with the education given to a Canadian, Scotch or English woman of the working classes. These women, he said, knew how to write better letters and spell more correctly than their American prototypes.—[Atchison Champion.

How Far He Travels.

Farmers who are about putting the plow into the ground for their spring work, may be interested to know just how many miles they have to travel in turning over an acre with different sized plows. The *Scientific Farmer* figures the matter out as follows:

	Inches.	Space traveled.
Breadth of furrow slice,	7	14 1/2 miles.
" " " "	8	12 1/4 "
" " " "	9	11 "
" " " "	10	9.9 "
" " " "	11	9 "
" " " "	12	8 1/4 "
" " " "	20	4.9 "
" " " "	24	4 "

From this table can be seen the gain, in the labor account with a crop, which comes from the use of a broad furrow in plowing. If we call sixteen miles a day the day's work for the horse, we plow but one and one-fourth acres a day, by making a nine-inch furrow; nearly two acres, by making a twelve-inch furrow; and when a gang plow is used, which plows a twenty-four-inch furrow, the acreage is increased to nearly four.

The use of an improved plow, which turns a broad furrow and pulverizes, is, therefore, an economy on land suited to its use, and there is a great gain from the use of a gang plow under the circumstances where it is applicable.

ABOUT 250,000 barrels of apples were last year shipped to Europe from the United States. More than half of this quantity went to England, 11,000 were taken to St. Petersburg, the balance going to other continental ports.

MR. TYLOR, in a philological lecture in London, speaking of some characteristics of the English tongue, says that it is well that English has these high, practical qualities, for statistics show that it will probably absorb all other civilized languages. The rapidity of increase of the English speaking race is so great that, at this rate, in a century it is calculated there would be eight hundred and six millions speaking English against seventy millions French or German.

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THE INDUSTRIALIST.

SATURDAY, APRIL 21, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

Ha! Ha!

With this number the *INDUSTRIALIST* enters upon the third volume. At the close of the first year, it actually had good reasons for thinking well of itself; and at the close of the second, as the reasons are the same, it has a mathematical right to think just twice as well of itself—which it does! Being the only journal of the sort, it is inevitably the best of its kind in the State,—and the kind isn't bad either! It publishes more sound sense on the questions of education, agriculture, and science as used in practical life, than any paper of double its size in Kansas; and, in the matter of nonsense, its nonsense is about as unadulterated as any in the market. With respect to typography and press-work, it is quite willing to be compared with any other weekly, though the labor is performed by the printing classes. As an advertising sheet, it goes to every county and State officer in Kansas, with a regular circulation of eight hundred. It is worth so much more than the subscription price that in the exuberance of generosity it offers to make several thousand swaps of itself for cash. It has never missed a number, never had a quarrel, and goes out with the best of good wishes to the best people in the world—its readers, to whom (and to itself!) it hereby takes off its hat.

THE monthly reports of the State Board of Agriculture are a new feature, and promise to do as much toward developing the wealth and settlement of Kansas, as the Centennial Exhibition did towards publishing its fame to all nations. They are simply invaluable to those who wish for the facts respecting the best agricultural State in the Union, and we heartily congratulate Secretary Gray who ought to be the United States Commissioner of Agriculture.

The Grasshopper.

Since the 14th inst., the grasshoppers, in every burst of sunshine, have been boiling out of the College farm like so many little fountains; and with the utmost celerity and unanimity have found the nearest spear of grass or grain. For some days no material damage will be done, simply because the little whelps are not large enough; but that is an element which time will speedily change. Prof. Riley's statement, made to us last fall after a careful examination, promises to be fully verified in this locality; namely, that if ninety per cent of the eggs should be destroyed, the remaining ten per cent would supply 'hoppers enough to eat up the early crops. This section being the best part of Kansas has naturally taken bet-

ter care of its eggs than have some other sections, if reports are correct, and we seriously doubt if ninety per cent of these eggs have been damaged. At any rate, our prospect for a healthy and swarming crop of these jumping darlings, is splendid—blame them!

We are devoutly thankful for the telegram from Ft. Scott that the eggs in southeastern Kansas are unproductive, and that not a 'hopper can be found thereabouts. However, nothing better could have been expected from that section; it is too near Missouri and the Indian Territory. The eastern end of the State, also, having had its test in 1875, was very properly avoided by the northerly swarms last fall. Locusts know a good country when they see it, and, in the fullness of maternal sagacity, peg down their infernal eggs in those regions where fertile fields will ensure abundant fodder for their beloved but unprincipled offspring.

When this crowd first arrived it knew nothing about Kansas in detail; it only knew that it was the best State on the continent; but, after foraging around a few months, it discovered that some counties raised a better variety, quality and quantity of good things, and raised them in better shape, than did other counties, and, of course, acted accordingly. Anybody would do that. And this discriminating judgment upon the part of such competent and voracious experts is bristling all over with suggestive consolation to the afflicted counties. There is nothing mean about these rich counties, and they will swap consolation for guaranteed fall wheat to an unlimited extent.

Seriously, there is no use shutting our eyes to the fact that until the middle of June many portions of the State will be more or less damaged. Every method which promises success in the destruction of the pest should be promptly and thoroughly tried. At the same time, it must be remembered that fighting 'hoppers is a new thing, and we may not find the best modes in a flash. Furthermore, supposing the early crops to be destroyed, the probability of raising late crops this season is so great as to render wholly inexcusable any despondency in the premises. The State was never in as good shape as it is to-day. Riley county alone has 355,240 bushels of old corn on hand, and in the State there are over 36,000,000.

MR. A. N. GODFREY, one of our students who is closely watching the g-hoppers for Prof. Riley, made a careful examination with respect to the effect of the late heavy rain-storm, and hands us the following:

More hungry little g-hoppers made their appearance yesterday. The recent cold rains must have destroyed large numbers of the young larvæ, for they are not so numerous as they were a few days ago. The greater portion of the eggs are yet in the ground, waiting for a few more days of warm sunshine to develop them. We have many insect friends working for us,—more than a casual observer would suppose. In a few square feet some fifty egg-parasites of different kinds were found. Of one hun-

dred egg-cases carefully examined, fifty-four were apparently sound and nearly ready to hatch, twenty were partially addled or eaten by parasites, and twenty-six were entirely addled or destroyed.

The Outlook.

Despite the grasshopper, the prospects are that Kansas will raise more than an average crop, and that the prices received for what is harvested will be so much better than heretofore as to overbalance the deficiency. All of the States sought by immigration are suffering worse than is ours, and, hopper or no hopper, thousands of persons have got to come West, owing to the condition of the East. The certainty of war between Russia and Turkey is already affecting our markets, and before it closes will, by involving all the powers, probably make the United States the farmer and carrier of Europe. Admiral Porter, the chief officer of our navy, says:

"The great good that this war is going to have on our country cannot be computed. We will not only sell flour, wheat, corn, pork, clothing, arms and ammunition to the contending parties, but we will sell all these things to the other great parties, especially our cereals and provisions. If the war continues two years, and my prediction is that it will, we will have to plant for the whole world. The entire agricultural pursuits of the great grain country of the Black Sea will be stopped. It was so in the Crimean. I was lieutenant in the navy and commanded the Supply, then in the Mediterranean squadron, and well do I remember the rich harvest our merchants reaped during that war.

"This war will bring back to us the commercial supremacy we lost during our war. If Congress legislates properly in June, so as to allow vessels to be bought and placed under our flag, to remain there, our commercial marine will have re-established itself, in less than a year, to its former magnitude.

"There can be no great amount of blockading in this war, and, even if there is, our vessels will get in with the supplies. The French and English merchants will buy all our supplies, however. If this foreign demand for our productions does not revive the good old times of plenty in this land, then, indeed, we are past redemption. Hats and caps, boots, shoes and clothing will form part of the trade, as it did twenty years ago in the Crimean war."

On the same subject, Gen. Sherman says:

"Neither of these nations have ever had larger or better disciplined armies. They have all the advantages of the many improved modes of warfare, and the result will be that the world will witness the greatest battles ever fought, so far as the destruction of life is concerned. I believe this struggle is going to cost a million of lives, and they will not be all Russians and Turks either. I can hardly believe that the Turks can withstand the shock. They may save Constantinople, but if they lose every other point, what good will it do them? God knows, sir, where this fight will end.

"It will keep all our people at work day and night to provide for Europe if there is a general war, and at this time that result seems inevitable to me. I believe all the great Powers will be directly or indirectly in the muss before the year is out."

THE INDUSTRIALIST.

SATURDAY, APRIL 21, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 10:02 A. M.
Going West..... 5:46 P. M.

FREIGHT ARRIVES.

Going East..... 10:35 P. M., and 5:25 P. M.
Going West..... 5:40 A. M. and 7:20 P. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.
GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending April 20th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Inches of Rainfall.
	Max.	Min.	Mean.			
Saturday.....	14	72°	44°	61°	28.71	
Sunday.....	15	79	50	65	28.64	
Monday.....	16	76	55	67	28.45	.35
Tuesday.....	17	78	52	66	28.30	.43
Wednesday.....	18	59	40	54	28.22	
Thursday.....	19	63	36	54	28.41	1.50
Friday.....	20	67	40	56	28.64	

Average temperature for the week, 65° 14.
Range of temperature for the week, 43°.
Rainfall for the week, 2.28 of an inch.

The alfalfa is growing a million miles a day.

Kansas never had a better spring than the present.

Fewer students have dropped out this spring than is customary.

We have been suffering from a severe attack of fever—spring fever.

This is exactly the right time of year to subscribe for the INDUSTRIALIST.

Mr. Walters is making a perspective view of the group of College buildings.

It is rumored that Kenny Davidson has been given a cadetship at West Point.

Never was such a prospect for fruit, and then to think of the Caloptenus squirtus!

A. A. Stewart would look better if he had his hair cut, and McKanlass is just the man to do it for him.

The INDUSTRIALIST has a larger circulation than the average weekly of the State, and it is just the paper to advertise in.

The fourteen-acre lot of blue-grass on the College farm is a sight for sore eyes, and the way the cattle luxuriate in it is a caution.

The storm on Wednesday night rather disturbed the perpendicularity of some of the trees which have lately been set out in the College orchard.

The College singing classes have been consolidated for the rest of the term. We may expect some loud choruses from this class at the coming Commencement exercises.

After a three days' storm, during which two and a quarter inches of rain fell, closing with a strong, cold, north wind, the hopper cusses are thicker than ever. Sich'n is life!

The air is fragrant with the perfume of the peach and plum blossoms. The box-elders and willows are running a race in putting out leaves, while the maples and elms are getting ready to "jine in."

Walter E. Foster, who went to Oberlin after attending this Institution last year, passed through Manhattan this week on his way to Osborne City, where his parents reside. Those eastern schools have no more attractions for him.

The Choral Union is going to give the last concert of the season at Peak's Hall, on Thursday evening, April 26th, 1877. Prof. J. B. Chase, who has been drilling the members during the past

winter, will have charge of and assist in the concert. Tickets, 25 cents; reserved seats, 35 cents.

The following persons compose the present Senior class, and will graduate next month: Miss Ella Child, J. S. Griffing, W. C. Howard and Wm. Ulrich, of Manhattan, Riley county; G. H. Fail- yer, Columbus, Cherokee; L. E. Humphrey, Mil- ford, Davis; F. O. Hoyt, Hiawatha, Brown; J. F. LaTourrette, Fort Lyon, Colorado; and M. F. Leasure, LaCygne, Linn.

We received last week two Champion fire extin- guishers, from Mr. H. A. Louis, Topeka. They have each a capacity of thirty-five gallons, are mounted on wheels, and are all that is claimed for them. One is kept in the carpenter shop, and the other in that general store-house—the President's office. When the weather settles down, we propose to organize a fire brigade of those students who desire to join it, and have monthly drills.

The bids for erecting the new \$4,000 barn were opened last night by the Executive Committee and architect Carr. There were eleven bidders, the lowest being C. Cole at \$1,625 for the masonry, and Wm. Allingham at \$2,140 for the carpenter work; total \$3,765. The bids were very close, two other parties offering to do the mason work at \$20 more than did Mr. Cole, they bidding \$1.75 per perch, and he \$1.73 per perch. The bonds will be presented this morning.

Prof. Platt was very agreeably and yet com- pletely surprised on last Wednesday afternoon. Just as the elementary singing class was about to be dismissed, Mr. DeForest arose and, delivering a neat little speech, presented to the Professor, in behalf of the class, a large and nicely bound his- tory of the Centennial Exhibition. This mark of esteem was shown to a worthy man, and the Pro- fessor will value his present all the more because of the fact that it was not given in obedience to custom,—no Professor having been thus treated for several years,—but was offered with the sin- cerest regards of the class coupled with a desire to be remembered by a faithful teacher; and be- cause, too, of the peculiar interest he will take in examining a record of the scenes which he took so much pleasure in visiting and studying last sum- mer. A more fitting present could not have been selected, and the Professor will long remember the persons who compose this class, and who have con- tributed to the purchase of this book.

Students' Column.

On Friday afternoon, April 13th, the Alpha Betas resumed the consideration of the far-famed breach of promise case. Several of the jurymen and one of the attorneys for the defense were absent, but the trial proceeded notwithstanding.

The plaintiff and defendant were both briefly re-examined, each substantiating the facts as pre- viously stated. The jury gave a verdict for the plaintiff in the sum of \$5,000, and the court ad- judged.

The Society, as such, then commenced opera- tions. Under extemporaneous speaking, "freedom of speech" was enormously exercised. The sub- ject at which most of the epithets were aimed was "prohibition." By way of information, cer- tain parties reminded us that the only way to res- cue the drunkard from his fate is to educate him.

The *Gleaner* was postponed one week.
Ladies and gentlemen, if you would receive the full benefit of your membership in the Society, your punctual attendance is necessary. Let us not allow the warm weather to interfere with our Society labors.
D. A. Z.

In the Webster Senate last Saturday evening, the bill referring to the metric system was again con- sidered. This, although passed by the Senate last session, had been vetoed by the Governor who now presented his objections in person. The friends of the bill first tried to lay it on the table,

and, failing in this, rose up on their dignity and declared that the Governor must present his objec- tions in writing. Beaten out of this, they took refuge in wrathy debate which finally resulted in the rejection of the bill by a majority of two.

Two resolutions were read, but one of them, being considered unfit for consideration by this Senate, was indefinitely postponed. Resolution No. 2, providing for choosing postmasters by the people, was passed without debate by a majority of six.

A motion was passed to make this the last of the legislative meetings, and next Saturday the regu- lar exercises will be resumed. The question for the next meeting is, "Resolved, That the Presiden- tial term be increased to six years, and the Presi- dent be ineligible to a second election."

REPORTER.

PROPOSALS.

Sealed proposals will be received by the under- signed, until Monday, April 30th, at 12 m., for fur- nishing stone and laying a Stone Sidewalk be- tween the Laboratory and the east wall of the College farm; said walk to be five feet wide, curbed on both sides, and laid in a workmanlike manner. Separate bids will be received for fur- nishing stone and for laying the same. The right is reserved to reject any and all bids.

N. A. ADAMS, Secretary.

A Thorough and Direct Education for the Farm, Orchard, Shop and Store.

Telegraphy.—Four miles of line, twenty- five line instruments, and daily instruc- tion and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, fur- nished by the Kansas Publishing House, Topeka.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reck- oned as an "industrial."

Bookseller and Stationer.—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan. 37-3m

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Til- lage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings, Apparatus illustrating the course in Practical Agriculture.

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufac- tory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

Chemistry and Physics.—The most val- uable and practical course in the West. Elementary Physics, Inorganic Chemistry, Or- ganic Chemistry, Chemical Analysis, Agricul- tural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photog- raphy and Household Chemistry.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, At- torney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the per- sonal, faithful and prompt attention of our attor- ney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Ked- zie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

THE INDUSTRIALIST.

SATURDAY, APRIL 21, 1877.

FLOUR, in paper cases, is being sent to England by an American firm. These cases or barrels are less than one-half the price of wooden barrels, and much lighter and more durable.

AMERICAN energy is following up its gains and improving its opportunities as it has always done. The subject matter this time is boots; the place Switzerland; the evidence a letter in a Berlin paper. That letter, counseling German effort to hold and gain, draws its enforcement from the fact that "boots which were received from a North America shoe manufactory are sold in this country for fifteen francs. This is a serious competition with our home industry. While we have exported boots and shoes of all kinds to America, the Americans have suddenly opened a competition with us in our own markets."—[*Atchison Champion*].

The Steam Plow.

The steam plow coming to Hammond & Miller, of LaCrosse, is a much more extensive affair than we had imagined it was, and when it arrives our people will be treated to a sight which will excite their wonder and admiration. The plow is simply a locomotive, as easily guided as a velocipede, capable of drawing an immense load and of traversing the prairies in any direction, regardless of hill and hollow, with nine ordinary breaking plows attached to it. Mr. Hammond, who operated one of these machines in Illinois, says he can draw five wagons loaded with two tons each, from LaCrosse to Hays, a distance of twenty-five miles, in four hours. The cost of the machine is \$4,000, and the owners expect to realize on their investment by plowing, drawing and threshing. They have already taken a contract to break four sections in Pawnee county.—[*Hays City Sentinel*].

Strawberries in a Barrel.

A Cherokee county fruit-grower sends to the *Courier* the following novel plan for a strawberry patch which he has seen tried with success in the South:

Take a coal oil barrel and bore five or six holes in each stave, commencing about six from the bottom and the upper one about three inches from the top, then the rest of holes equal distances apart, and so on until the whole barrel is full of holes, making from eighty to one hundred holes. Then fill in close of very rich dirt to the first tier of holes. Then insert a good healthy plant into each hole, just letting the bud or crown of the plant stick outside of the barrel; put the dirt firmly on the roots, inside of the barrel; then fill up with dirt again to next tier of rows and then plant as before, and so on until the whole barrel is planted, leaving the top a little concave, so as to hold the water that is to be poured onto it as required. Make a few holes in the bottom of the barrel to take off any surplus water that might accumulate, that it may drain off.

This is a beautiful way of having a neat strawberry patch near the house, or on the porch, making both an ornament and producing luscious fruit. One hundred plants at a half pint each to the plant would make twenty-five of luscious berries.

Further, they are not in danger of drouth, as you can keep them watered, and keep them in bearing for six or eight weeks.

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the *INDUSTRIALIST* by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

Record, Beloit, Kansas. A real-estate paper. 25 cents per year. Tells all about north-western Kansas. Kelly & Bertram, Proprietors.

News, Girard, Crawford county. A Democratic weekly paper published at the county seat of Crawford county, \$1.50 per year. Tipton & Lamoreaux, Editors.

New Century. The temperance paper of Kansas. Published at Fort Scott. Weekly, at one dollar a year. Rev. Jno. Paulson and Jno. B. Campbell, G. W. C. T., Editors. Sargent & Co., Publishers. 47-3m

Independent, Minneapolis, Kansas. Established 1871. The oldest, largest and cheapest paper in the beautiful Solomon Valley. Price \$1.50 a year. Politics, independent but not neutral. W. Goddard, Publisher. 43-3m

Home Record, Leavenworth, Kansas. Established in 1872. Is the organ of the Home of the Friendless, an Institution founded and controlled by the women of the State of Kansas. Circulation, 3,200. No better medium for advertising in this section. Mrs. C. H. Cushing, Editor. 44-3m

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Dress-Making and Millinery.—Daily instruction and drill in hand and machine sewing; cutting, fitting and making dresses; and all branches of millinery, by a practical teacher.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

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Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the *KANSAS FARMER* very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks"*. I read your *FARMER* with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the *KANSAS FARMER* as being worthy the support of all patrons."

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Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term began Thursday, January 4th, 1877, and closes May 23d, 1877.

For further information, apply to

J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. III.

MANHATTAN, KANSAS, SATURDAY, APRIL 28, 1877.

No. 2.

THE INDUSTRIALIST.

Published every Saturday by the
PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription.
Advertising rates made known on application.
Address A. A. STEWART, Manhattan, Kas.

His Majesty the Pig.

A correspondent, "not a Jew or vegetarian," who considers "fat pork a very unhealthy article of food," and that "it is a low, degrading business to raise such filthy animals as swine for food," thinks that time spent in writing about them, and experiments in feeding them, and the vast quantities of corn raised to nourish and fatten them, might be devoted to much better purposes. We may remind him, however, that aside from the question of home consumption, the animal he so much despises possesses such a degree of commercial importance that we scarcely like to hear him spoken of in disrespectful terms. During the year ending June 30th, 1876, we exported :

Bacon and hams, to the value of.....	\$39,664,456
Pork, " "	5,744,022
Lard, " "	22,429,485
Lard oil, " "	149,156

Total export value..... \$67,987,119

No other single article of export—cotton and wheat alone excepted—looms up in anything like the proportions of his majesty the Pig; and if cotton is king, he is also worthy of a throne! The lordly Ox, with his wider range of products, bows respectfully before him. The same year above referred to, there were sold to other countries:

Beef, to the value of.....	\$ 3,186,304
Butter, " "	1,109,496
Cheese, " "	12,270,083
Tallow, " "	6,734,378
Hides and Skins, to the value of.....	2,905,921
Leather. " "	8,394,580

\$34,600,762

In point of fact, we did not realize the financial standing of our porcine friend, until his dignity was so bitterly assailed in the letter before us. *Over ten per cent* of the grand aggregate of all the products and all the manufactures that we sold abroad in 1876 came from our pig pens! They brought us *more than one-third* as much as the entire cotton crop of the South, almost three-quarters as much as the wheat and flour from all the North. The country could ill afford, in these hard times, to spare its little income of seventy millions from his royal highness of the sty.

This increase is of comparatively recent date. Take the item of bacon and hams alone (nearly \$40,000,000 in 1876); the average of the three preceding years, in round numbers, was \$32,340,000; in 1872 it was \$21,000,000, and the average for each of the seven years, 1865-71 inclusive, was only \$6,758,062.

While we have at hand the official tables from which these figures are taken, it may be of interest to give in condensed form, in

the order of their importance, the leading items:

Cotton unmanufactured*.....	\$192,659,262
Bread and breadstuffs of all kinds.....	130,474,077
The Pig, as per above table.....	67,987,119
Cattle products, " ".....	34,600,762
Tobacco and its manufactures.....	25,570,538
Oil cake.....	5,774,858
Sugar.....	5,552,587
Animals of all kinds.....	2,436,287
Seeds " ".....	1,418,612
Preserved meats, not included above..	998,052
Starch.....	524,956

Direct Products of Agriculture...	\$467,997,110
All other Exports (Manufactures, &c.,)	176,959,296

Aggregate for the year..... \$644,956,406
* Manufactures of Cotton, not included here, \$7,722,978.

As these figures do not agree with a table of exports published last week, we may remind the reader that the latter were for the *calendar year* 1876, while the foregoing are for the U. S. fiscal year ending June 30, 1876.—[*Country Gentleman.*]

Grasshopper Visitation.

A tabular statement of the visitations from grasshoppers in all the Western States and Territories, Kansas and Missouri excepted, from the year 1818 to the present time, has been prepared and is now going the rounds of the press. The table is as follows :

Washington and Oregon, 1827, 1828, 1834, 1835, and 1855; California, 1838, 1855, 1856; Indian Territory and Texas, 1845, 1855, 1856, 1866, 1867, 1874, 1875, 1876; Nebraska, 1866, 1867, 1868, 1869, 1874, 1875, 1876; Colorado, 1855, 1864, 1865, 1867, 1868, 1873, 1874, 1875, 1876; Utah, 1852, 1855, 1856, 1857, 1868, 1873; Wyoming and Idaho, 1845, 1852, 1855, 1873, 1874, 1875, 1876; Montana and Dakota, 1855, 1864, 1873, 1874, 1875, 1876; Minnesota and Iowa, 1818, 1819, 1820, 1855, 1856, 1864, 1867, 1873, 1874, 1875, 1876; Manitoba, 1818, 1819, 1857, 1864, 1867, 1868, 1869, 1872, 1874.

A Minnesota paper comments on this table and says that "from this statement it will be seen that Minnesota, after suffering from the grasshoppers in 1818, 1819 and 1820, was free from the ravages for thirty-five years, or until 1855. The next year they were here again, and then we escaped from them for nine years or until 1864. Three years thereafter they visited us again. Then we were free from them six years. Since that time, or during three years, they have been present in some part of the State.

"Since 1818, a period of 58 years, there have been 34 years in which the grasshoppers were not found within the limits of observation, either by settlers on the public lands or the officers at government forts. There are two theories as to this disappearance: one is that they have retired in immense numbers into the great plains near the Rocky Mountains; the other is that they were nearly destroyed by unfavorable seasons and had to wait until, under favorable circumstances, they rallied their forces in their natural hatching grounds on the great plains.

"An inspection of the table gives great

encouragement to the theory that from unfavorable seasons and other natural causes they are destroyed after the lapse of four years at the most. Their time has expired in this region, and there is consequently good reason for hoping that we shall see but little of them this season or for many years to come. If they were capable of indefinite increase, the year 1855, when they spread from Oregon to Texas, was a most favorable time for an advance over the whole continent. But on the contrary, within two years they had disappeared everywhere, except in Utah.

"In the present state of knowledge on the subject, the only reliance we have is on their annihilation by natural, or as some will say, Providential causes. Their appearance and disappearance is undoubtedly regulated by fixed rules—one of which seems to be that within a period of four years, they have wherefore, in every locality, run their course and disappeared. This is a hopeful fact, and to our mind the most hopeful indication on which the inquiring mind can rest. Let us make the most of it."—[*Kansas Farmer*.

Mr. Crane's Airdrie Duchesses.

We have just issued from this office what we think is the neatest and finest catalogue of Shorthorns ever published in America, embracing the Airdrie Duchesses belonging to the "Durham Park Herd" of Albert Crane, Esq., Durham Park, Marion Co., Kansas.

This catalogue contains extended pedigrees of the cows Airdrie Duchess 2d and Airdrie Duchess 3d, purchased at Hon. M. H. Cochran's sale, June 14th, 1876, by Mr. Crane, for \$44,600 gold; and their two heifer calves, Airdrie Duchess 5th and Airdrie Duchess 6th. The first of these calves is a red, by 4th Duke of Hillhurst 21506, Airdrie Duchess 3d; and the other is a roan, by 2d Duke of Hillhurst 12893, Airdrie Duchess 2d. Extended pedigrees of the sires of each of the females, viz., 14th Duke of Thorndale (28456), 11th Duke of Geneva 16784, 4th Duke of Hillhurst 12893, are also given; and that of 23d Duke of Airdrie, to which one of the cows is now in calf.

Mr. Crane may well be congratulated on his good fortune in having the number of his Duchesses doubled since his bold investment of last June. As will be seen by a notice in our Stock Gossip, other important additions have recently been made to this "gilt-edged" herd; and, by reference to Mr. Crane's advertisement in this number, it will be found that this herd embraces many splendid animals in addition to the Airdrie Duchesses above mentioned; and that it affords a rare opportunity for breeders to procure choice bulls at a low price.

At the "Durham Park Farm" are also to be found a very choice lot of purely-bred Berkshire swine.

Mr. Crane's location gives him the advantage of cheap land, cheap grain and cheap grass, and he is consequently able to make prices correspondingly low.—[*Live Stock Journal*.]

THE INDUSTRIALIST.

SATURDAY, APRIL 28, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

COL. PROUTY'S address before the State Historical Society on the "Kansas Immigrant of 1856" is one of the best things we have read for a long while. Such contributions are invaluable, and should be procured before the actors pass away. This article is written with a terse vigor that is rendered all the more noticeable by the modesty with which the author depicts stirring events in which he was an actor. We move that he be put on the platform again.

EVERY one knows that trees planted along the highway, unless protected, are more or less injured every year by cattle and other domestic animals. Usually, an effort is made for their protection by driving two or more boards or stakes in the ground about the trees and connecting these with small slats. Such protection as this is, however, generally worse than useless. With every gale of wind the tree is crowded violently against the tops of the posts or boards, the bark of the tree is rapidly abraded, and frequently in a single night the tree is ruined. A better but more expensive way to keep off stock is to put a permanent fence at some distance from the trees and about the entire plantation.

While in Illinois last summer, we noticed what seemed to us the best cheap protection for shade trees that we have yet seen. This consisted of simply four or five long sprigs of Osage orange fastened around the tree at its upper part and allowed to hang down by the trunk, a bit of twine securing these firmly near the ground. We were assured by parties who had given this plan a long trial, that while it cost almost nothing it worked most satisfactorily.

ON this the 26th day of April there seems to be only a considerable fraction of the sound grasshopper eggs that have attained to the condition of fully developed insects. Careful observation shows that there is yet in the ground an enormous quantity of eggs in different stages of development. It seems certain, too, that the late abundant rains, whatever may be their effect upon the insect of a few days old, have not materially retarded the hatching process. We have noticed them emerging from the ground during the late cold rains and immediately after them, apparently in increased numbers. It will be remembered that the pests of 1875 acted in very much this same fashion. We desire to put these facts on record for the purpose of correcting the notion so often noised abroad last winter, that it was possible for the grasshoppers to hatch out sufficiently early in the season to get their quietus

from subsequent severe weather. We question much if there ever is sufficient warm weather in Kansas during the winter months to hatch out any considerable number of grasshoppers. However much we dislike the 'hopper, we are bound to respect him. He is strictly a business individual, and one not to be deluded into coming into the world when "garden sass," corn, potatoes and the like do not abound.

Eastern Views of Western Experiments.

The experiments conducted upon the College farm during the past year have been quite generally and favorably noticed by the Eastern press, and in several cases they have called forth valuable suggestions and criticisms from well-known agricultural writers.

In the *Country Gentleman* of March 8th, in an editorial article quoting the College experiments in planting corn, the plan of the experiment is criticised as not giving the variation necessary "to secure the full benefit of drill culture." (It will be remembered that plats of corn in hills with drilled plats, alternated throughout the experiment, the same number of stalks being left in each plat.) The writer says:

"In making trials of different modes of cultivation, it is important to give each mode all the benefit of any peculiar requirements for success. * * * There is one serious defect in the experiment. Instead of raising the same number of stalks in the two modes, the drilled corn should have a greater number of stalks. It will bear it. One leading advantage of drilled planting is the even distribution of the stalks over the surface, and this permits a larger number without crowding."

Mr. B. F. Johnson, the well-known Illinois correspondent of the *Country Gentleman*, in the issue of March 22d, remarks as follows regarding the above comments:

"I observed some editorial remarks as to the distance at which corn should be planted in order to get the largest crop of grain, and offering the opinion that if, in the case of the Kansas College experiments and those made by your correspondent and referred to in another place, the distance had been less, the yield would have been greater in both cases. While I am ready to admit if the work had been more carefully done and a better stand obtained in the case of the Champaign experiment, the yield would have been much greater (and probably also the same would have been true of the Kansas College case), I do not think a lessening of the distance between the rows, or of that of the stalks in the rows, in either would have increased the yield. Corn-growers of the North do not seem to be aware of the fact that if corn is planted as thickly on the rich prairie soils of Illinois and Kansas as it is in the poorer and colder ones of New York and New England, it will scarcely ear at all; and, carrying the illustration farther, if corn is planted as thickly on the deep and rich soils of Arkansas, Texas and Mississippi as it is in Illinois and Kansas, the result will be similar. A half century of experience has demonstrated that on the older, richer and deeper soils of that part of

Illinois which lies on the parallel of the Kansas experimental grounds, the best yield in bushels of corn is made where the rows stand four feet apart each way and the average stand does not exceed two and a half stalks to the hill. * * * If it were undertaken to grow a crop of corn on the rich corn lands of Illinois and Kansas by planting so as to get a stand equal to one stalk to the square foot, the result would be corn fodder with ears no bigger than the thumb."

Mr. Johnson's general proposition that the large corn grown upon the rich soils of the prairie States will not admit of as thick seeding as the variety grown in New England and New York, is undoubtedly correct; but just where the limit is, is not known. We hope during the coming year, by enlarging upon the experimental work of 1876, to get some facts bearing upon this point. From what we have observed in the State, we are of the opinion that corn will bear thicker seeding in Kansas than it usually receives. As to the reasons for the course pursued in the College experiments of last year, we give below an extract from a letter written by Prof. Shelton, appearing in the *Country Gentleman* in answer to the objections quoted above:

"While in many cases it is doubtless true that 'in making trials of different modes of cultivation, it is important to give each mode all the benefit of any peculiar requirements for success,' the rule admits of many exceptions; for example, where the problem involves two or more unknown quantities. It is not wise to attempt the solution of an agricultural question by a single experiment, when from its very nature it requires a continuous series of trials. You say, 'Instead of raising the same number of stalks in the two modes, the drilled corn should have a greater number of stalks.' Now, if this course had been pursued, I hold that it would have been impossible to decide whether the variation in the yield was the result of the different methods of planting simply, or to the variation in the number of stalks. The whole experiment would have been nearly worthless because the same results might have been obtained from two sets of plats, all planted in hills, but one containing four stalks to the hill the other say five. * * * If I am in error in this, Mr. Editor, I at least err in good company. In detailing the results of his experiments in the application of manures to turnips, begun in 1843, Mr. J. B. Lawes says in a foot-note to article, 'Agricultural Chemistry — Turnips,' (*Journal Royal Agricultural Society, Eng., vol. 8.*) 'The plants were set out with a view to obtain four to a square yard,' etc. * * *

Again, in the oft-quoted experiments of Prof. Miles, of the Michigan Agricultural College, with corn in hills and drills, "the plants were thinned so as to leave the same number of stalks on each piece." (*Rep. Michigan State Board of Agriculture 1868, p. 117.*) I might quote other experiments of the same high character with those mentioned above, but I believe enough has been said to show that if not correct in my position, I am certainly not alone in the views here taken."

PROF. TICE predicts a dry summer and advises the farmers to plow deep.

THE INDUSTRIALIST.

SATURDAY, APRIL 28, 1877.

TIME-TABLE OF THE K. P. RAILWAY. PASSENGER ARRIVES.

Going East..... 10:02 A. M.
Going West..... 5:46 P. M.

FREIGHT ARRIVES.

Going East..... 10:35 P. M., and 5:25 P. M.
Going West..... 5:40 A. M. and 7:20 P. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.
GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending April 27th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Saturday.....	21	76°	50°	62°	28.69
Sunday.....	22	80	43	70	28.69
Monday.....	23	59	39	52	28.96
Tuesday.....	24	60	41	52	29.01
Wednesday.....	25	60	46	52	28.81
Thursday.....	26	54	46	51	28.53
Friday.....	27	58	33	45	28.33

Average temperature for the week, 55° 18.
Range of temperature for the week, 47°.
Rainfall for the week, 1.40 of an inch.

R. E. Lofinck is in Nevada, Mo.

The examinations for the month of April were held yesterday.

The field north of the nursery on the College farm has just been seeded to oats.

The Berkshires have ornamented their noses with rings, and have gotten a special field of alfalfa for their spring promenades.

On the fourth page will be found the names of the one hundred and seventy-five students enrolled during the present term.

Miss Nellie Sawyer's many friends will be glad to learn that she proposes visiting Manhattan and the College during Commencement week.

We call attention to the publishers' advertisement of Prof. Kedzie's work on Agricultural Geology. The book is just what Kansas needs.

The complacency with which our herd of Short-horns, Jerseys, Galloways and Devons loaf through the blue-grass pasture, and gazes off at the town cows skirmishing around the common, is highly suggestive of happiness.

The present season is superb for planting trees; and this week has been especially favorable for setting out evergreens. Prof. Gale's force has been busy transplanting pines. A few years hence these grounds will be splendid.

We understand the Seniors with their "honey-suckles" intended to have an ice cream party at the Kitchen Laboratory this evening, but the frigidity of the weather caused them to postpone the affair. We would suggest that it be turned into an oyster supper or a skating party.

During the last College year the Treasurer of the Alpha Beta Society has received \$100.50. Besides paying the running expenses of the Society, this amount has purchased a neat book-case and sixty books. The Society is very well satisfied with its condition, but proposes to renew the step of progress when the next term begins.

The following word was received from C. M. T. Hulett, Edgerton, Johnson county, whom many of our students remember with pleasure: "Please find enclosed \$1.50 for the INDUSTRIALIST, as my subscription expires very soon and I can't do without it." Every student in College ought to subscribe for this paper before going home.

The continued cold rains of the past week have prevented the grasshoppers from hatching in very great numbers. Many of them have doubtless

been destroyed, but when the first warm weather comes they will boil out of the ground by millions. We are glad to see the farmers organizing for the purpose of waging war upon these pests, for we cannot resist the conviction that countless numbers of them will be preying upon our crops in a few weeks.

The contractors have begun work upon the new barn, which is to be situated about five hundred feet north of east of the old barn. The place selected is a very desirable one for this kind of a building, being handy to water, protected somewhat from the cold winds, and located where there is an abundance of room for yards, etc. It will be some time before the workmen begin work on the walls of the building, as a great amount of dirt must be removed to make room for the basement.

Mr. Frank Hoyt, the late popular salesman in E. B. Purcell's store, was found dead in his bed last Tuesday morning. He had been suffering with toothache on Monday, and in the evening upon retiring took some chloroform to alleviate the pain. It is supposed that his death was caused by an overdose of this narcotic, as he was found next morning with the bottle in his hand and the contents emptied upon the bedding. This is indeed a sad affair, and one which has caused a cloud of sorrow to rest upon Manhattan. Many of the old students were acquainted with Mr. Hoyt, and will be shocked and pained to hear of his sudden and accidental death.

ESCALOPED POTATOES.

We had heard of them; had eaten what was called by that name; had read in gilt letters on elaborate bills of fare the words, "escaloped potatoes;" had wondered if they were scalloped with the scissors or a knife; had called for them and been served by the waiters, after long and anxious waiting, with some dry and withered-looking scraps that might have been potatoes, for they were irre recognizable as anything else, and had decided not to call for them the second time. But we heard they had them at the Regents' dinner, and that they were pronounced very nice; so, having been kindly furnished with the recipe from the Kitchen Laboratory, we did try them, and lo! to our delight and astonishment (for we were still skeptical), we found them a real luxury, voted such by the combined taste of the whole household. And our judgment is that if all the girls in the Kitchen Laboratory go home to cook escaloped potatoes with their luscious beefsteaks, even Kansas winds will not be able to ruffle the tempers of the husbands and brothers.

Get the recipe if you can; if not, get a College girl to show you how to cook them (the art really lies there), and then feast to your heart's content.

The debate of the Alpha Betas last Friday was on the question, "Should law and theological schools be open to women?" Decided in the affirmative. The *Gleaner* was presented by Mr. Stiles and Miss Lizzie Williamson. The paper was laden with as much sound sense as a paper of its dimensions could well contain. The jokes were original, fresh and wholesome. The paper will appear again in three weeks under the editorship of W. Ulrich and Miss Ella Child.

The next question for discussion is, "Should the study of Latin be optional in an institution professing to give a liberal education?" D. A. Z.

The question discussed by the Websters last Saturday evening referred to lengthening the Presidential term and prohibiting a second election. This was the cause of considerable sharp discussion, and resulted in a negative decision.

This evening the old programme, with the declamation, composition and select reading, was resumed; these duties being creditably performed by Messrs. Gist, Hickey and Anderson.

The question selected for next meeting reads, "Is man a free moral agent?" The speakers are:

Affirmative—Godfrey, Anderson and Salter; Negative—Harvey, Cox and Eckman.

This meeting was well attended by both visitors and members. Among the latter was our old friend H. S. Maynard, who made a few congratulatory and encouraging remarks.

REPORTER.

PROPOSALS.

Sealed proposals will be received by the undersigned, until Monday, April 30th, at 12 M., for furnishing stone and laying a Stone Sidewalk between the Laboratory and the east wall of the College farm; said walk to be five feet wide, curbed on both sides, and laid in a workmanlike manner. Separate bids will be received for furnishing stone and for laying the same. The right is reserved to reject any and all bids.

N. A. ADAMS, Secretary.

A Thorough and Direct Education for the Farm, Orchard, Shop and Store.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

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Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

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ELEMENTS OF AGRICULTURAL GEOLOGY.

By WM. M. KEDZIE, M. S., Professor in Kansas State Agricultural College.

Agriculture being the leading interest in Kansas, it is of prime importance that the sciences bearing upon it should have a place in the State system of education. That this fact has been very generally recognized we have a proof in the adoption of article VI, Section 6, of the Kansas Session Laws of 1876. It demands that every applicant for a teacher's "A" certificate shall be familiar with "the elements of Geology so far as relates to the manner of formation of soils and their adaptation to the purposes of production." There has hitherto been no text-book published, however, at all adapted to the wants of the common schools in this respect. *The Elements of Agricultural Geology* has been written by Professor Kedzie, at the urgent solicitation of many prominent educators throughout the State, with the object of supplying this want. It presents the subject in simple, untechnical language that will be easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and at the same time, from a scientific point of view, it is rigidly exact.

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THE INDUSTRIALIST.

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Adams, Emma L.	Riley.
Anderson, Bernhard	McPherson.
Bailey, Willie E.	Osage.
Bayles, John A.	Riley.
Beamer, David A.	Nemaha.
Beck, Jno. W.	Riley.
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Blain, Arthur T.	Riley.
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Campdoras, Leon S.	Shawnee.
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Cole, Fannie I.	Riley.
Copley, Albert	Jefferson.
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Cotton, Katie H.	Wabaunsee.
Cox, Geo. A.	Davis.
Cox, Lizzie R.	Davis.
Cripps, Edward V.	Osage.
Crowl, Jessie C.	Pottawatomie.
DeForest, Rodman A.	Nemaha.
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Eckman, Wilmer K.	Osborne.
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Elliot, Willard S.	Riley.
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Ernst, Wm.	Lyon.
Everhart, Logan	Labette.
Failyer, Geo. H.	Cherokee.
Failyer, Mariam	Cherokee.
Failyer, Miriam	Cherokee.
Fletcher, Clinton	Missouri.
Fletcher, Ellen	Riley.
Fraunberg, Wm. S.	Labette.
Freligh, Jno. H.	Cherokee.
Frizzell, Edwin C.	Shawnee.
Frizzell, Ruric N.	Shawnee.
Gifford, Frank	Davis.
Gist, Joseph	Riley.
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For further information, apply to
J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, MAY 5, 1877.

No. 3.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

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From the *American Agriculturist*.

Among the Farmers.

BY ONE OF THEM.

TROTTING HORSES.

There is one thing most of the young men are wide awake about. That is trotting horses. It comes to pass in this way. A young man becomes a young man when he owns a horse and top buggy—he is nothing but a boy before that. It is easier to breed and break a colt than to buy one, though everybody says it costs more. So the old mare is bred to a trotting stallion, and the colt is expected to trot. The stout farm horses that were once bred here, that would work well on the farm, and make fair time on the road,—haul thirty hundred weight of truck to market before breakfast, and do a day's work on the farm between noon and dark, have disappeared, and spindle-legged trotters have taken their places. On a fine Sunday afternoon the whole country is alive with smart buggies, trotting ponies, and young men, and the young men are not alone. There are blushes and ribbons about, and the youths often look interesting, and, if you are approaching on the road, they are quite likely to forget to turn out. It's quite natural, and no wonder the boys are fond of horses. They do most of their courting behind them.

WHAT HORSES SHALL SMALL FARMERS BREED?

It becomes a matter of interest to determine what horses it will pay best to breed, especially for small farmers. The land, as I have repeatedly said, is light. Fall plowing is but little done, and theoretically not advantageous. A good farm mare may therefore do her spring and summer work perfectly well, and have a foal every year in August or September. It seems a great pity that so many horses should be raised, and among them so few that are worth the hay and provender that they eat before they are five years old. Were the Norman, or Percheron, not so violent a cross, it would seem to be the best; nevertheless, I believe experience at the West shows that smallish mares will often have excellent and well formed foals by such sires. The first Percherons ever imported into this country were brought into New Jersey (the Harris importation). After the importer had used them for some years, "Diligence," the stallion, and "Joan," the mare, with their other imported animals and their get, the entire stock, was sold out by Mr. Harris, to my neighbor, Mr. John G. Bell. He bred them for some years, and, after the death of the old horse, bred old Joan to the imported thorough-bred stallion, "Consternation," a horse of most amiable disposition for a

thorough-bred. The cross proved a capital one, and a pair of mares thus bred are famous good ones. They are a handsome, stylish pair of farm horses, and trundle the family Rockaway about in good style, and at a remarkably good rate, too. There are several stories told of

THE STRENGTH OF THESE PERCHERONS.

One is, that coming from the field one evening after plowing, having left the whiffle-trees behind them, the plowman found a neighbor with a yoke of oxen and a pair of horses at the foot of the hill with a log that this team was unable to move. He was asked to attach his horses, so that the combined force might draw it up.—"Let me go back and get my whiffle-trees," said he; "my mares will manage it alone."—"No, hitch right to these."—They were broken at the first pull. Then his own were obtained, and with the reins hung on the hames, the word was given to start up a little. As soon as the little mares felt there was really a weight behind them worthy an outlay of strength, they started and did not stop until they got to the top of the hill, distancing the entire crowd, the log rolling first this way and then that, I call them little, and they are, as they weigh only about 1,150 pounds each, but it is "all horse" and not a lazy nerve or fiber. Their hoofs are round and solid as iron; their legs are short-jointed, flat, and hard, with tough tendons; they are short-coupled, low set, solid-fleshed, and were originally grey, but now white.

There is a quick market in all our cities for such horses. We ought to raise them. Sending the geldings to the market and keeping the fillies for farm work and breeding. The young horses could be worked on the farm, and would pay for their keep after they are two years old, and the work would do them good besides thoroughly breaking them without their knowing it.

THE GREAT NORMANS,

such as the Western breeders have been importing so freely of late years, are too large for profitable use among Eastern farmers, or among small farmers anywhere; but if we could use the old style Percheron, such as Mr. Harris brought out, it would be exactly what we want, as imparting weight, courage, power, soundness, quick growth, docility, good trotting action, and almost invariably a fast walk. I suppose such stallions may be imported for about \$1,200, possibly for less—certainly for less than a second-class trotting stallion is considered worth. As to Clydesdales, they are too heavy for our use, too expensive also, and need to be crossed upon heavy mares, or the progeny lack symmetry to a deplorable extent. I mention these—Normans, Percherons, Clydesdales—because next to trotters they seem to be the available horses. We have a good many in this country, and the foreign ones may be easily imported.

REALLY GOOD CARRIAGE HORSES, could we breed them, would of course be much more profitable than draft horses, but we have no carriage stallions proper, and

the carriage horses bred in the country come from large mares bred to thorough-bred or large trotting stallions, and if really fine are lucky accidents as it were, the majority of the progeny being of inferior style, or lacking in some important quality. A New York merchant having a favorite mare, no longer of use in his carriage team, bred her twice to a rather famous imported thorough-bred. The result was one light-limbed, heavy-bodied colt, so lacking in muscle and endurance that he was worthless for any purposes for which he could use him, and another so light-limbed and small-boned that in his gambols he actually broke his leg in a pasture free from woodchuck holes, post holes, or any such temptation. Last year I bred the only breeding mare I have to Col. Battell's Orloff, and really have great expectations. If thorough breeding be measured by the inheritance of valued qualities, the Orloffs are more thorough-bred than the "thorough-breds."

The English have bred horses for the race-course, and they have produced from the most intelligent, loving, gentle, fast, and enduring breed in the world—the Arabian and its congeners—the fastest running horses the world has ever known, and among them many capable of carrying great weight in the race, hence possessing courage, endurance, bottom, and speed, and of course fine bony and muscular development for these purposes. But they exhibit rarely any beauty of style or action, and exceptionally only that power and grace which combine so admirably in a fine horse, and they oftener than not possess a disposition which renders it dangerous to approach or handle them, and impossible to trust them.

Taking the same Arabian blood as a basis, one hundred years ago Count Orloff inaugurated a system of breeding which is now producing legitimate fruits. The Orloff horses are very different from the Arabians, yet they possess all their intelligence, fearlessness, affection, trustiness, courage, and endurance, while they have been bred to possess extraordinary beauty of form, carriage and action, with large size, a natural trotting gait of very considerable speed, and generally jet black color. If ten to twenty generations of breeding systematically, for these qualities, the success of which is demonstrated by the astonishing uniformity of the animals, is not thorough-breeding, I am very sure the English system is not worthy the name. True, Count Orloff and his successors at Chrenova, openly used cold-blooded mares of various breeds and qualities, whereon to cross the Arabian blood, while the English breeders have done just the same more or less, only they do not acknowledge it.

THE *English Mechanic* gives the following recipe for preserving shoe leather: A solution of an ounce of solid paraffine in a pint of light naphtha, to which six drops of sweet oil have been added, is put cold, say eighteen degrees C., on the soles till they will absorb no more. One dressing will do for the uppers.

THE INDUSTRIALIST.

SATURDAY, MAY 5, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

Fight or Suffer.

At Topeka this week we met gentlemen from all parts of the State, and are satisfied that, unless some very strong and systematic fighting is done, the grasshoppers will devastate the greater part of Kansas within thirty days. If other localities are like this one, and from what we learned we believe that very many of them are, either the farmers have got to fight or they have got to lose their crops. There is a false confidence respecting the threatened danger. The general sentiment is that very little damage will be done, but when you ask gentlemen why they think so they reply, "eggs spoiled," "frosts," "so much rain," "newspapers," "luck." The inhabitants of cities, not having seen hopperlets cavorting through the streets or browsing on the prairie, where the hopperesses don't stick eggs, are apt to regard any story of the farmer as "scare."

Now, the facts are that in this neighborhood quite two-thirds of the eggs are good; that every warm dash hatches out droves of 'hoppers; that those already out are sufficiently numerous to eat up the crops before flying; that five-sixths of the sound eggs are yet to hatch; and all this in spite of the "cold," "rains," "parasites," "precedents," and "general sentiment." Luck is a good thing, but pluck is better; and if this part of the State is going to rely on the former without exercising the latter, our belief is that it will lose all its crops except corn, and this also unless we have unusual summer rains. Governor Anthony informed us that the latest telegrams announced the State of Texas to be as bare as a floor, the fields black with 'hoppers, and the latter nearly ready to fly. A letter just received here from reliable authority in Minnesota, says that devastation is absolutely certain there unless the most desperate and prompt fight is made. And while we would gladly believe that Kansas is in no especial danger, yet we can't.

If the tenth day of June doesn't find entire counties eaten off as clean as a road, except where the people have systematically fought inch by inch, we will be the happiest prophet whose predictions were not fulfilled that ever walked. The chances are that the people will wake up too late, will begin to organize after the battle is really lost, and will go round kicking themselves that they relied on a "luck" that never had the least foundation in fact. Fight or suffer; and when the suffering comes don't whine and blame "Kansas" instead of your own negligence.

Another 'Hopper Trap.

There are three different ways in which the grasshopper invades a country. In the first, it hatches out of the earth; in the second, having consumed the supply of food on the hatching ground, it marches to new fields; and in the third, it descends from the sky in swarms. The modes of defense must be adapted to those of attack. Against the third there is no defense. When the flying host settles from the clouds, it blackens the whole earth and strips stalk and leaf; there is nothing to be done so far as extensive fields are concerned. There is, however, sure defense against the marching columns; namely, that of a ditch two feet wide and two feet deep with perpendicular sides. The enemy jumps in but can't jump out, and may easily be buried in pits or treated with coal oil. At present the danger is from those hatching out among the crops, and we wish to speak of the modes of killing these hoppers. The season for destroying the eggs by crushing, harrowing or plowing is passed.

Several machines have been tried in Saline and Dickinson counties during the last two weeks. One is on the principle of a fanning-mill, the fan making 1,200 revolutions per minute and the exhaust sucking the hopperlets up and either mashing them against a screen or emptying them into sacks. Another, of which we hear better results, is a sheet-iron pan, say two by fourteen feet, with the edges turned up a couple of inches, and having a sheet-iron or muslin back two feet high. The pan is partly filled with oil, which is kept from slopping out by muslin or a gunny sack. Its efficiency depends on the claim that the least touch of coal oil will finally kill the 'hopper. We understand that Prof. Riley recommends a frame, say ten by fifteen or more feet, covered with coarse muslin kept saturated with coal oil, mounted and dragged over the ground, so that at its approach the 'hopper will jump against it or on it; in either case the oil will cause his ultimate death.

Yesterday afternoon we had the following cheap machine built in a couple of hours, which thus far promises to do all the work of either of the oil machines: Three pieces of fence board, four feet long and three or four feet apart, serve as sled runners. To the front ends is nailed a fence board fifteen or more feet long. To this, and over the runners, three pieces or slats, each four feet long, are attached by a leather hinge; and inch and a half holes through the back ends of these slats receive light standards, the lower ends of which are fastened to the back ends of the runners by a leather hinge. Peg holes in the upper half of the standards enable you to place the slats at any desirable angle. On the back ends of these slats is nailed a strip fifteen

feet long, parallel with the fence board and three feet from it; and to these is tacked coarse muslin fifteen feet in length, which forms an apron or movable screen that can be set at any angle. To this same strip is fastened a small V-shaped trough, oil tight, and fifteen feet long. Before putting the trough together, cut into the lower edge of the upper piece, with a saw, holes say one-sixteenth of an inch deep and two or three inches apart, giving outlets for the oil from the trough. In the bottom of the trough we put several strands of cotton wick (a ball) to hold the oil and keep it from passing through the saw-cuts too rapidly, but don't now believe it is necessary. To the front ends of the outside runners a long piece of fence wire was attached and a mule was hitched to the wire, much to the disgust of the mule. A boy can pull the light machine, but mules pull longer than boys do.

On trial it worked to a charm; and this morning the ground gone over shows several dead 'hoppers to the square foot, notwithstanding the fact that they had quickly jumped off the apron. It should be used against the wind, and promises to be very effective. We have ordered a barrel of crude petroleum just as it comes from the well, which ought to act fully as well as the refined oil and is very much cheaper. Any man can make the above in two hours, and it is worth trying. Will report further next week.

Resolutions.

At the last meeting of Manhattan Grange No. 748 the following resolutions were adopted:

WHEREAS, All our knowledge of agriculture and all improvements in its methods are in good part the result of careful experiment, and,

WHEREAS, One of the great objects of the Order of Patrons of Husbandry is the dissemination of useful information among the farmers, and especially such knowledge as shall be of direct assistance to them in the line of their vocation, therefore, be it

Resolved, That each brother be requested to devote at least one-fourth of an acre to experiments in the growth of corn, the variety of corn employed and the method of the experiment to be decided by the experimenter, and the product to be donated to Manhattan Grange No. 748; and it is further

Resolved, That each experimenter be requested to keep an accurate account of all the details of the management of the crop, including such items as kind of soil, variety of grain, time of planting, the special treatment given the crop, and finally the number of pounds of corn in the ear obtained; and it is further

Resolved, That Manhattan Grange No. 748 shall offer a first premium of \$5, a second premium of \$3, and a third premium of \$2, for respectively the first, second and third most successful results, according to the plan suggested above, the award to have reference to the completeness of the report, skill and originality of the experiment, and the yield of grain; and be it further

Resolved, That this Grange shall hold a corn festival during the coming autumn, after the harvesting of the crop, at which time the awards shall be made, and specimens of the corn raised by every member shall be placed on exhibition.

E. M. SHELTON,
STEPHEN BARNES,
RICHARD KIMBALL, } Committee.

THE INDUSTRIALIST.

SATURDAY, MAY 5, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 10:02 A. M.
Going West..... 5:46 P. M.

FREIGHT ARRIVES.

Going East..... 10:35 P. M., and 5:25 P. M.
Going West..... 5:40 A. M. and 7:20 P. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.
GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending May 4th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.	Mean High.	
Saturday.....	28	40°	30°	28.75	28.71
Sunday.....	29	51	28	41.50	28.79
Monday.....	30	60	35	48.25	28.79
Tuesday.....	1	73	35	59	28.70
Wednesday.....	2	76	39	55.25	28.56
Thursday.....	3	51	40	46.50	28.70
Friday.....	4	62	38	51.25	28.54

Average temperature for the week, 48° 50.
Range of temperature for the week, 48°.

Prof. C. V. Riley was in Manhattan the first of the week.

The evergreens set out last week are doing well, and add very much to the appearance of things.

S. C. Chenoweth, of Frankfort, Marshall county, a former student of this Institution, called upon us yesterday.

We have had fires in the recitation rooms every day this week, which is a nice commentary on an "early" spring.

Nearly all of the classes are making a thorough review of the work of the term preparatory to the final examination.

We are unable this week to give report of Prof. Shelton's lecture before the Manhattan Grange on corn. It will appear next week.

The Board of Regents held a called meeting at Topeka this week, and on Thursday the Executive Committee met in Manhattan to consider whatever might properly come before it in relation to the College.

D. A. Beamer, the political giant of the Alpha Betas, has gone home, and with his parents will soon immigrate to Missouri. We hope he will remember the "Students' Column" when he gets settled down.

The excavation for the barn is not progressing as rapidly as was expected, on account of running into a bed of stone. While not so profitable for the contractors and rats, it is all the better for the foundation and floor.

Prof. Riley has appointed A. N. Godfrey, one of our best students, a deputy for this State, to look after the Caloptenus spretus in the interests of the Grasshopper Commission. We can assure Prof. Riley that he could not have selected a more worthy young man, nor a more untiring and zealous worker.

While the fruit at St. Louis was killed by the freeze of April 29th, ice forming a quarter of an inch thick, we are able to report the best prospects here. A very thin skin of ice was formed on that morning, and there was a light frost the following day; but reports from Leavenworth and Wabaunsee agree with our experience that no damage was done.

The May-basket season is here, and a number of the students have embraced this opportunity for amusement. The haps and mishaps, as related by the participants, are indicative of a good time generally. That extremely eccentric individual

of the African persuasion known to some people as "Scud," was kindly reminded of his physiological peculiarities by the receipt of a diminutive gourd, hollow but containing seeds, and bearing upon its surface the exact features of the hereinbefore-mentioned individual. The gourd has been carefully preserved, and may be seen upon application to "A. A. S." when there is no one around.

The question debated last Saturday evening by the Websters was the free moral agency question. Two debaters being absent from the negative side, Messrs. Gist and DeForest were chosen to fill the vacancy. Decision unanimously for the affirmative.

The next order was extemporaneous speaking, which was engaged in with considerable spirit by the members, the question for debate being overhauled considerably. This order was very lengthy as many of the members felt strongly on the question of free moral agency.

The duty of declamation was performed by Mr. Leasure, who gave the words of a song entitled "Nicodemus." A composition on confessing our errors was read by Mr. Williamson.

Considerable difficulty was experienced in selecting a question, but one referring to the comparative cost of fashions and liquors was finally adopted.

REPORTER.

The question, "Should the study of Latin be optional in an institution professing to give a liberal education?" was pretty thoroughly aired by the Alpha Betas on April 27th, and decided in the affirmative. Extemporaneous speaking was as exciting as ever. The main questions discussed were the character of the Irish of this country, and the proper education for the farmer's boy. On both of these questions the members spoke very freely. The question selected for debate at the next meeting is, "Is Russia justified in declaring war against Turkey." This question is an important one, and it promises to draw out a fierce debate.

Miss Neale read an interesting essay on "Country and city life." Miss Willey read a very amusing selection entitled "The Irishman's Letter."

The attendance is slightly on the increase, which fact I am pleased to announce; but the members will please take cognizance of the fact that there is still room for a few more. D. A. Z.

SENIOR PARTY.

The party which was postponed from last Saturday evening on account of stormy weather, came off on Thursday evening, and was the pleasantest, most enjoyable affair of the season. The company assembled in the Music rooms at about 8:30, where the moments flew swiftly away with laughter and song until one of the committee announced that supper was prepared. The company made little delay in "each finding the other" and wending their way to the eating-room of the culinary department, where a sight met their eyes well calculated to excite admiration and a keen appetite. Mrs. Cripps and her class had the tables profusely decorated with flowers, while among the blossoms could be seen cakes, candies and oranges in abundance. The surprised and delighted company soon found themselves in readiness to investigate the quality as well as the appearance of the delicacies.

In glancing around the room, the following persons were found to make the party: G. H. Failyer and Miss Ella Winne, J. S. Griffing and Miss Lizzie Pechner, W. C. Howard and Miss Cassie Moore, F. O. Hoyt and Miss Ella Child, L. E. Humphrey and Miss Lizzie Williamson, J. F. LaTourrette and Miss Emma Eckman, M. F. Leasure and Miss Ida Willey, Wm. Ulrich and Miss Miriam Failyer.

The committee informed the gents that by proceeding to an adjoining room each one could be supplied with ice cream for himself and lady, and each one immediately "proceeded." During sup-

per the class was somewhat entertained by a falsetto voice outside, pleading for a little cream; but when invited to come in embarrassment evidently got the better of hunger, for said voice immediately subsided, and its owner was minus.

Upon returning to the Music rooms, a huge May-basket was discovered, filled with smaller "baskets," each of which was "artistically" addressed to its intended owner. The Seniors are obliged. After an hour of merriment, during which the freezing effects of the ice cream were entirely overcome, the company separated for their homes, each feeling a sort of regret that Senior parties, like all fleeting enjoyments, endure but for a season.

The class is deeply indebted to Mrs. Cripps and her class for assistance; and is willing to vote unanimously that, if the taste displayed in arrangements and the quality of excellence found in the cakes are the outgrowths of instruction given in that department of College instruction, it is a success.

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ELEMENTS OF

AGRICULTURAL GEOLOGY.

By WM. M. KEDZIE, M. S., Professor in Kansas State Agricultural College.

Agriculture being the leading interest in Kansas, it is of prime importance that the sciences bearing upon it should have a place in the State system of education. That this fact has been very generally recognized we have a proof in the adoption of article VI, Section 6, of the Kansas Session Laws of 1876. It demands that every applicant for a teacher's "A" certificate shall be familiar with "the elements of Geology so far as relates to the manner of formation of soils and their adaptation to the purposes of production." There has hitherto been no text-book published, however, at all adapted to the wants of the common schools in this respect. The *Elements of Agricultural Geology* has been written by Professor Kedzie, at the urgent solicitation of many prominent educators throughout the State, with the object of supplying this want. It presents the subject in simple, untechnical language that will be easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and at the same time, from a scientific point of view, it is rigidly exact.

The *Origin and Formation of Soils*, particularly those of Kansas, forms the second part of the book, and will be of interest to agriculturists generally. Teachers designing to apply for the "A" Certificate will find the work exactly adapted to their needs as far as this branch of study is concerned.

Professor Kedzie's reputation as an educator being so well established throughout the State, the Publishers present his work with every confidence that it will meet with a most favorable reception. Price, 12mo., cloth, 96pp., wholesale, \$4.80 per dozen.

VAN ANTWERP, BRAGG & Co., Cincinnati and New York: (2-1f)

THE INDUSTRIALIST.

SATURDAY, MAY 5, 1877.

Students Enrolled Since Jan. 4, 1877.

NAME.	COUNTY.
Abbott, Frank C.	Riley.
Adams, Emma L.	Riley.
Anderson, Bernhard	McPherson.
Bailey, Willie E.	Osage.
Bayles, John A.	Riley.
Beamer, David A.	Nemaha.
Beck, Jno. W.	Riley.
Benjamin, Daniel A.	Atchison.
Blain, Arthur T.	Riley.
Briggs, Harry	Riley.
Brous, Wilber J.	Riley.
Brown, Ada E.	Riley.
Brown, Mark L.	Riley.
Browning, Emma E.	Riley.
Browning, Lois A.	Riley.
Buel, Walter A.	New York.
Buell, C. Stewart	New York.
Buell, Delight N.	New York.
Burnham, Wm. P.	New Mexico.
Campbell, Emma	Illinois.
Campbell, Ettie A.	Riley.
Campbell, May	Illinois.
Campdoras, Leon S.	Shawnee.
Child, Ella	Riley.
Cole, Fannie I.	Riley.
Copley, Albert	Jefferson.
Cotton, Fred L.	Wabaunsee.
Cotton, Katie H.	Wabaunsee.
Cox, Geo. A.	Davis.
Cox, Lizzie R.	Davis.
Cripps, Edward V.	Osage.
Crowl, Jessie C.	Pottawatomie.
DeForest, Rodman A.	Nemaha.
Delahay, Charles	Leavenworth.
Eckman, Emma F.	Osborne.
Eckman, Wilmer K.	Osborne.
Eells, Allan B.	Riley.
Elliot, Willard S.	Riley.
Emmons, Geo. E.	Pottawatomie.
Ernst, Wm.	Lyon.
Everhart, Logan	Labette.
Failyer, Geo. H.	Cherokee.
Failyer, Mariam	Cherokee.
Failyer, Miriam	Cherokee.
Fletcher, Clinton	Missouri.
Fletcher, Ellen	Riley.
Fraunberg, Wm. S.	Labette.
Frelich, Jno. H.	Cherokee.
Frizzell, Edwin C.	Shawnee.
Frizzell, Ruric N.	Shawnee.
Gifford, Frank	Davis.
Gist, Joseph	Riley.
Gist, Owen	Riley.
Glossop, Lydia	Riley.
Godfrey, A. N.	Greenwood.
Griffing, Jno. S.	Riley.
Griffing, Wm. J.	Riley.
Gross, George M.	Davis.
Harvey, Henry	Sedgwick.
Hibbard, Alice	Riley.
Hickey, Pierce	Marshall.
Houston, Grant U.	Riley.
Houston, Hortense	Riley.
Houston, L. N.	Riley.
Howard, Giles P.	Riley.
Howard, Walter C.	Shawnee.
Hoyt, Emma	Riley.
Hoyt, Fred O.	Brown.
Hughes, Frank	Leavenworth.
Huling, Orlando D.	Cherokee.
Humphrey, Carrie E.	Davis.
Humphrey, Louis E.	Davis.
Humphrey, Merritt C.	Davis.
Irish, Gertrude S.	Riley.
Irish, Helen M.	Riley.
Jeffrey, George A.	Riley.
Jeffrey, Wm.	Riley.
Johnson, Charles A.	Pottawatomie.

Jones, Carrie L.	Wabaunsee.
Jones, Henry M.	Wabaunsee.
Jones, Horace B.	Wabaunsee.
Jones, Richard C.	Atchison.
Kay, James S.	Pottawatomie.
Kay, Jennie A.	Pottawatomie.
Kershaw, Jarvis	Riley.
Kimble, Martha	Riley.
King, Carrie M.	Riley.
King, John	Marshall.
Knipe, Geo. D.	Riley.
Knipe, Wm. A.	Riley.
Knostman, Amelia	Riley.
Knostman, Emma	Riley.
LaTourrette, Jas. F.	Colorado.
Leasure, Marion F.	Linn.
Lewin, Jno.	Riley.
Lewis, Ira H.	Labette.
Little, Charles E.	Lyon.
Little, Kate	Lyon.
Lynch, Fred	Cherokee.
Lynch, James H.	Cherokee.
Mails, Chas.	Pottawatomie.
Mann, Jno.	Rice.
McCallum, Albert M.	Davis.
McCallum, Charles P.	Davis.
McClanahan, S. L.	Crawford.
McConnell, Chas.	Riley.
McNair, Samuel E.	Wabaunsee.
Meacham, Mary A.	Riley.
Miller, Frank E.	New York.
Moore, Cassie J.	Shawnee.
Morgan, Sam'l M.	Lyon.
Neale, Cora A.	Illinois.
Noyes, Amelia M.	Wabaunsee.
Noyes, Ida L.	Wabaunsee.
Parker, Mary G.	Riley.
Parish, Emma	Riley.
Parkerson, Fannie R.	Riley.
Patton, Jerry B.	Rice.
Peck, Seward N.	Davis.
Peckham, W. H.	Riley.
Perry, Geo. H.	Riley.
Pillsbury, Nellie	Riley.
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Ruland, Frank C.	Butler.
Rushmore, Harry C.	Jefferson.
Salter, Lewis A.	Neosho.
Sapp, Elwood	Neosho.
Schreiner, Ernest	Marshall.
Shaw, James	Riley.
Sibrell, Hattie	Davis.
Simpson, Emma	Riley.
Smith, Clement O.	Lyon.
Smith, Leslie H.	Shawnee.
Spooner, Matthew H.	Clay.
Stiles, Albert H.	Wabaunsee.
Todd, Irving	Riley.
Ulrich, Corinna	Riley.
Ulrich, Edwin H.	Riley.
Ulrich, Wm.	Riley.
Vincent, Ella E.	Riley.
Wake, Geo. A.	Clay.
Walker, James	Pottawatomie.
Ward, Stanley M.	Ellenville, N. Y.
Waters, Eben	Labette.
Weeks, Joseph	Phillips.
Wells, Arthur	Phillips.
Wells, Harvey A.	Phillips.
Whitney, Genevieve	Riley.
Whitney, Kittie	Riley.
Whitney, Willard A.	Riley.
Willey, Ida M.	Cherokee.
Williamson, Jos. E.	Shawnee.
Williamson, Lizzie	Royal Center, Ind.

Williston, Carrie	Riley.
Williston, Frank H.	Riley.
Wilson, Amos E.	Dickinson.
Winder, Ivaloo	Washington.
Wingrove, Page	Clay.
Winne, Jno.	Riley.
Womack, Thomas J.	Russell.
Wood, Adelbert D.	Lyon.
Wood, Arlie	Labette.
Wood, Clarence E.	Pottawatomie.
Wright, Robert	Ford.
Wyland, Thomas J.	Jewell.
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CALENDAR:—Winter Term began Thursday, January 4th, 1877, and closes May 23d, 1877.

For further information, apply to
J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, MAY 12, 1877.

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Corn Culture.

[Abstract of a paper read by Prof. E. M. Shelton, before Manhattan Grange, April 28th, 1877.]

Directly and indirectly Indian corn exerts a mighty influence upon the agriculture of America. Its value is not to be judged solely by the one and a quarter billion bushels—worth half as many dollars—annually raised in the United States, nor by the countless herds of cattle and swine dependent upon it. Corn alone, of all the generally grown farm crops of America, by its habit admits of the thorough cultivation of the soil during the period of its growth. It is the positive duty of every farmer to make the most of every crop grown, and he who cultivates corn without reference to succeeding crops, fails to obtain an important benefit to be derived from its growth. It can rarely be said of any crop good or bad that it is the result of treatment the land has received during its growth, but more usually the crop is influenced very largely by the two or even three crops that had gone before it.

In the rotation corn is a cleansing crop. It ought to be to the western farmer what the summer-fallow is to his New England brother, or turnips to the English farmer, a crop upon which much labor and skill may be profitably expended in ridding the land of weeds and putting it in condition for the succeeding small grains. To the corn land the manure of the season should be applied; and to the corn plant, regular and careful cultivation. When thus treated, corn is not an exhausting crop upon the land, but the reverse. One of the most promising crops of corn that I have ever seen, I saw in Illinois last summer; and it was the twenty-fifth corn crop that had been grown successively upon the same land. Again, corn is a "coarse grain," and usually it is most profitably disposed of when fed upon the farm; thus it furnishes the manure which enables us to farm to advantage the "small grains."

There is a notion widely prevalent that corn is a crop requiring little skill and judgment in its management; and indeed upon the new lands of the West surprising

crops are often produced, during favorable seasons, with the most careless cultivation. But in truth there is no crop grown by the American farmer that demands and will pay for thorough tillage like the corn crop. This is abundantly proved by the fact that in many of the Eastern States the cultivation of corn has become one of the "lost arts." Slovenly farming has done this. Again, in our own State where from the presence of drought or locusts the crop has been a general failure, a few farmers have yet grown good crops. Good farming has done this. We should hold in mind continually this fact, that where we manure liberally, where we plow and cultivate thoroughly, keeping the land entirely free from weeds, we not only ensure a good crop of corn, but we are also making certain paying crops of the wheat, barley and oats that succeed the corn. Especially during the prevalence of drought ought the corn ground to be often stirred lightly by the cultivator. Even when corn is tall and far past the time at which cultivation is usually applied, this may be done to great advantage. By breaking the crust which constantly forms upon the surface of the ground, the vapor-laden atmosphere is enabled to penetrate to great depths, depositing upon the cold particles of earth its wealth of moisture. There are scores of facts which show conclusively that by thorough preparation of the soil, judicious selection of the seed, and careful cultivation, the yield of this noble grain may be increased to a most surprising extent. The fact that this crop depends very largely upon the cultivation which it gets is strikingly shown by the fact that the remarkable yields of this grain reported have generally been made, not upon those soils of limitless fertility—the western prairies, but in the New England and Middle States, and not unfrequently outside of what is usually considered the "great corn belt." Not many years ago a yield of one hundred bushels of corn per acre was considered a most surprising accomplishment. Within the last four years this yield has been nearly or quite doubled in several well-authenticated cases. In 1873 Mr. Jas. Dickey succeeded in growing upon a Pennsylvania hill-side one hundred and sixty-nine bushels per acre of Yellow Dent corn, and that too over a considerable field. Again, Mr. D. A. Compton, of Pennsylvania, has established by ample testimony for one of his fields a yield of one hundred and eighty-one bushels. All these, however, have been

thrown in the shade by Mr. W. F. Turney, of Alabama, who claims a yield of two hundred and twenty-one bushels per acre, how truthfully I have been unable to ascertain. There can be no doubt that our own State possesses a soil and climate for the production of corn that is unsurpassed, if it is equalled, by any other State in the Union. If we have not upon record the largest yields of this crop, it is because we have not made the effort. Certainly nowhere is corn produced cheaper than in Kansas. During the past season, the corn grown upon the College farm was grown and placed in the crib at a cost of only twelve and one-half cents per bushel.

Numerous experiments made from time to time tend to show that a largely increased yield of corn may be obtained by a more uniform distribution of seed over the ground and thicker seeding, than by the old method of planting in hills. That ancient champion of good farming, John Johnston, of Geneva, says that invariably drilled corn has given him an increased yield of fully twenty-five per cent over the old method, besides greatly improving the quality of the fodder. In 1867, upon the Michigan Agricultural College farm, six experimental plats were laid off across a field in which corn in hills alternated with corn in drills, the same number of stalks being left in each plat. The drilled gave an increased yield of over eight bushels per acre as compared with the plats in hills. In a similar experiment upon our own College farm last season, the drilled corn gave an increased yield of eight and one-half bushels per acre. Some years ago a curious and interesting experiment was tried by a Mr. Chidsey, of Cayuga Co., N. Y., by which he succeeded in raising one hundred and thirty-two bushels of corn per acre. In this experiment single stalks were allowed to grow one foot apart over the entire surface of the ground, the corn being entirely cultivated by hand.

Prof. Roberts, of Cornell University, reports a series of experiments performed last year upon the University farm, which are of interest to the cultivators of our staple crops. He arranged a series of plats having respectively three, four, and five stalks to the hill with the following result:

Three stalks to the hill	gave	5,146	pounds	per	acre.
Four " " " "	"	5,946	"	"	"
Five " " " "	"	6,160	"	"	"

Thus with four stalks to the hill the field yielded eight hundred pounds more to the

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, MAY 12, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

By virtue of old times and pleasant memories, we are apt to keep an eye on the *Junction City Union*, which has donned a patent inside. After reading every line in the last issue, we believe the change has been an improvement so far as the readers are concerned, because, while the same quality and a greater quantity of original matter is given, a broader range of clippings and general news is furnished. And, so far as G. W. is interested, he is able to furnish a larger paper at one-half the former cost to himself. Success to the *Union* in any shape.

The Locust.

At the close of another week the 'hopper outlook here is no better. Mr. Godfrey, after a careful examination at Abilene and Salina, reports that he was unable to find any unhatched eggs, and that from some unknown cause the 'hoppers were dying. Should the future prove that the eggs are all hatched, there is no reason whatever for apprehension in those localities. On the College farm the same observation is true respecting the 'hoppers that first made their appearance, and which by this time should be of fair size. They are not to be found, and have either been stunted by the cold or rain, or else have been killed. But we are by no means so hopeful as to the condition of the eggs. During the week we have had but two passably warm days, and on each of these the hopperlets swarmed out of the ground thicker and faster than campaign lies in election time. And, so far as this locality is concerned, fully two-thirds of the original deposit of eggs are sound as a nut and yet to be hatched.

Now, one of two things may be true. First, that the wet weather of winter and spring has so affected the embryo that while the 'hopper comes out he hasn't the constitution to stand the climate. If this be the case, but little damage will be done by those yet to appear. Or, second, it may be that the unhatched eggs are wholly unaffected, that the hopperlets thus far have been hurt by the cold rains since their appearance, that when the weather turns warm and clear those then hatching will prove to be vigorous and attentive to business. In this event, damage is bound to be done unless a vigorous fight is made. And this is precisely what we anticipate.

We have made several experiments during the week with the muslin apron described in the last *INDUSTRIALIST*, and are fully satisfied of its efficiency. When going against the wind, it gathers the locusts by the thousands; and while very many jump

off yet careful observations show that they are as certain to die as if they were submerged in oil. The evaporation of oil is far less than we anticipated, and, therefore, the cost of running is less.

We expect the 'hoppers to go for the fruit trees in the Nursery, as they did at Leavenworth two years ago. Prof. Gale proposes to try a collar of oiled paper around the trunk, and in other cases a band of cotton-wool, over neither of which can the pest crawl. There is danger of girdling, which can be prevented by paper or straw.

The New Barn.

This building, upon which work has already commenced, is located in the hill-side north-east of the College building—formerly "the barn"—and distant from it five hundred feet. This site possesses advantages which will occur to practical men at once. The building is what would be called in New England or Pennsylvania a "bank barn," and it has all the advantages of those comfortable structures. It is convenient to water, a never-failing stream flowing within six feet of what is to be the barn-yard. The location is central, considering both the upper and lower farm, and is easily accessible from every field of grain. While the building itself is a well-proportioned, shapely structure, it has been planned for something else than mere ornament or architectural effect. One experiment of this kind is usually sufficient for an individual or corporation. This barn is to be the home of a large herd of cattle, and a storehouse for grain, hay, tools, etc.; and in planning the building the aim has been to secure the greatest space for the money, and such a disposition of this space as shall be most comfortable to the animals occupying it, with the least labor in caring for them and the hay and grain stored in the building.

The size of the barn is 48x96 feet, the sides ranging north and south. It is two stories high,—or rather one story and basement,—the basement being ten feet from floor to floor, the upper story sixteen feet from floor to eaves. The walls are to be of native limestone, laid up after the best form of rubble-work.

The capacity of the building will be easily understood by reference to a few figures. It has stall room in the upper story for seven horses, and in the basement for twenty-three cows and twenty head of young cattle, together with four box stalls for bulls. The building has a total capacity of one hundred and fifteen tons of hay, or its equivalent in grain and straw. It has a granary room for one thousand bushels of grain and two hundred and twenty bushels of feed, while the root cellar will easily contain sixteen hundred bushels of roots.

A moment's consideration will convince the reader that these dimensions are none

too great for a farm of one hundred and fifty acres of arable land thoroughly cultivated. The crops of hay, millet and grain grown upon the College farm during 1876 would have crowded this building to its utmost capacity. Within two years, at its present rate of increase, the College herd of pure-bred animals will fully occupy the entire space now allowed to cattle stalls.

It may be objected to this plan that it contains no provision for piggeries, or for the storage of corn. To this we have only to say that we are of those who believe that pigs, on account of the odor which they impart to a building, ought not to be kept in a barn on any pretense whatever; while corn, from its need of perfect ventilation and from its furnishing a convenient hiding place for vermin, ought to be kept in a crib separate and distinct from the main building.—Prof. Shelton.

Locust Flights.

An Appeal from the Entomological Commission.

To the Editor of the Commonwealth:

Everything pertaining to the migration of the Rocky Mountain Locust, or "grasshopper," is of vital interest to the people of the country subject to its ravages. The question as to how far the northern breeding grounds are recruited by the insects which hatch in the most fertile country in which the species is not indigenous, is most important; for if thus recruited there is all the greater incentive for us to exterminate the young insects when they are with us.

For the past fortnight the locusts have been leaving Texas on the wing, and as it is one of the most important subjects of the Commission, which I have the honor to represent here, to trace these return migrations to their ultimate destination, I desire to call your attention more particularly to the following questions from our circular No. 1:

1. Date and time of day of the arrival of swarms.

a. Direction and force of wind at the time.

b. Temperature and character of the weather at the time,—clear or cloudy.

c. Direction of the flight, density, height and extent of the swarms.

2. Date and time of day of the departure of swarms.

a. Direction and force of wind at the time.

b. Temperature and character of the weather at the time.

c. Direction of the flight, density and extent of the swarms.

You will do me a favor if you will appeal to your readers throughout the State, and especially in the western portion, to make notes in accordance with these questions, and send them to me at St. Louis, Missouri. Any person thus sending information will be furnished with the publications of the Commission, and given such other assistance in the way of postage, &c., as may be desired. I shall also be pleased to have all other papers in Kansas, or in any of the States and Territories west of the Mississippi, copy this appeal to their observing readers.

Yours, very truly,

C. V. RILEY.

Wichita, Kas., May 5th, 1877.

THE INDUSTRIALIST.

SATURDAY, MAY 12, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 10:02 A. M.
Going West..... 5:46 P. M.

FREIGHT ARRIVES.

Going East..... 10:35 P. M., and 5:25 P. M.
Going West..... 5:40 A. M. and 7:20 P. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.
GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending May 11th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Inches of Rainfall.
	Max.	Min.	Mean.			
Saturday.....	5 67°	45°	57°	25	28.40	.05
Sunday.....	6 55	38	52		28.59	
Monday.....	7 60	31	51	.50	28.77	
Tuesday.....	8 73	40	59		28.83	
Wednesday.....	9 71	58	62	.25	28.70	.18
Thursday.....	10 73	54	63		28.64	.70
Friday.....	11 73	52	62		28.65	.05

Average temperature for the week, 58°.14.
Range of temperature for the week, 42°.14.
Rainfall for the week, .98.

The Farm department has just received a fine lot of garden seeds from Japan.

The field east of the farm-house was planted to corn just in time to receive the full benefit of the nice rain Thursday night.

The Farm department received during the past week a very choice Berkshire sow of the breeding of N. H. Gentry, Sedalia, Missouri.

President Anderson and wife entertained the members of the Faculty and others at their house last evening. A very pleasant evening was spent.

The College herd of Berkshires seems to be appreciated abroad. Not long since, the Farm Superintendent refused an offer of \$150 for a yearling boar pig.

F. C. Ruland is teaching school near his home in Butler county, and is also superintending a prosperous Sabbath school. F. C. is a good boy, and we hope he will always prosper.

Because we print extra copies of this issue of the INDUSTRIALIST, we republish on our fourth page the resolutions passed by Manhattan Grange last week, and which appeared in our last number.

Four cold frames have been placed in the ground a few feet north-east of the horticultural building, and in them it is proposed to grow some cabbage and tomato plants,—grasshoppers to the contrary notwithstanding.

The ground around the horticultural building has been leveled off and will be sown to blue-grass in a few days. And right here we might say that the blue-grass sown in front of the laboratory building some time since is growing nicely, and promises to make a good stand.

The following students graded one hundred during the month of April in the classes named: *Algebra*—Ida Willey; *Book-Keeping*—Wm. Bailey; *Drawing*—Bernhard Anderson, Albert N. Godfrey, George A. Wake; *Landscape Gardening*—Ella Child, George H. Failyer; *Music*—Emma Eckman, Corwin Reed, Ira Lewis; *Surveying*—Jos. E. Williamson.

The Manhattan schools closed this week, and are to have a picnic to-day in the beautiful grove near the city. Next fall they hope to begin their work in the new school building which is soon to be erected, where with increased facilities and many other advantages they may hope to be still more successful in imparting knowledge to their students.

The College grounds have been ornamented with the following trees in addition to those previously published: 237 pines, 25 box-elders, 10 stripenda, 7 Lombardy poplars, 90 ampelopsis and wisteria vines. Next fall the original plan adopted a year ago will be fully carried out. There won't be any hopper-grasses then.

The following is taken from "R. E. Form's" items in the *Enterprise*, and speaks of one of the members of the present Surveying class:

G. H. Perry has secured a job of leveling. Parties in need of an engineer would do well to employ him. He is a resident of Manhattan, a student of the College, and a man that may be depended upon. But these things do not incapacitate him for the duties of civil engineer.

The Botanical department has just received a very fine lot of window plants from A. Whitcomb, Lawrence, Kansas, for which he will please accept our thanks. It is only simple justice to say in regard to the plants and the packing, that if Mr. Whitcomb's plants reach all his customers in as good order as these came to us, he will secure hosts of friends and establish a good business as the result of his care.

The sermon to the graduating class will be delivered in the Presbyterian Church at three o'clock Sunday afternoon, May 20th. The term examinations will be held at the College on the Monday and Tuesday following. The orations by the Seniors will be delivered on Wednesday morning, May 23d, in the church; and the annual oration before the College on Wednesday evening, by Col. J. R. Hallowell, at same place.

The Alpha Betas met in their Hall yesterday afternoon and held an interesting session, although there were not many members present. The question under discussion was something about the influence of circumstances on man. Under extemporaneous speaking the grasshopper was handled quite severely. At next meeting the *Gleaner* will be read. Judging from indications, we suppose the debate will be better than the average. It is the last meeting for the term, and a good time is expected. Let all members come out. Visitors will be welcome. A. B.

The question debated by the Websters last Saturday evening referred to the comparative cost of fashion and liquors. The debate was very lengthy and was finally decided for the affirmative.

Provision was made at this meeting for an unusual display of talent at the last meeting of the term. Messrs. Leasure and Williamson have been appointed chief speakers, and they will report their question and assistants at this week's meeting.

The question selected for debate next Saturday evening is, "Should a merchant have a College education?" REPORTER.

'HOPPER NOTES.

All things considered, the locust prospect for this vicinity is not very encouraging. With us the hatching process has but fairly commenced, and yet even now myriads of the young locusts have appeared. At the west and south, where the soil is lighter and warmer, general hatching was completed some two weeks ago. This difference in the time of hatching is due to the difference in the nature of the soil, whether light and warm or cold and tenacious. This late hatching is beneficial in giving the egg parasites and their natural enemies, such as snakes, birds, etc., an opportunity to do greater execution.

Although numbers of the locusts which first hatched have perished from the inclement weather and other causes, yet those now hatching and yet to hatch will live under more favorable conditions. We may therefore expect fewer natural deaths among the locusts than we have hitherto enjoyed.

The eggs were deposited in such numbers here, and so many are yet unhatched, that we may ex-

pect to fight for our crops if we would save them. In most of the southern and western portions of the State, the prospects are brighter than they are at present with us. They have only the locusts now hatched to contend with, while we have almost as many now with us and many more coming. Because other portions of the State are comparatively safe, we must not expect immunity from the pest.

It is now evident, from the number of young locusts above ground and the number of eggs beneath, that unless we give this subject close attention with strong and united action we may expect to suffer. The effect of combined, determined action in destroying the locusts is well shown in some parts of the State. All who show the white feather now deserve to suffer. We cannot remain inactive on the supposition that the locusts are dying off and that no danger need be apprehended. True, they "die off" at a rapid rate when visited by a flock of blackbirds or plover. Although many die while hatching or molting, we cannot safely rely upon this natural means of getting rid of the 'hopper. All insectivorous birds are our best friends, and should be jealously guarded not only this year but for years to come, for we may need their assistance again. A. N. GODFREY.

A Thorough and Direct Education for the Farm, Orchard, Shop and Store.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

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Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

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Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

[Concluded from first page.]

acre than with three, and with five stalks there was an increase of only two hundred and fourteen pounds per acre.

Again, the experiment of removing the suckers was tried and the results compared with equal plats upon which the suckers remained. The results showed for the plats without suckers a yield of 5,132 pounds per acre; for the plats upon which the suckers were allowed to remain, 5,588 pounds per acre; showing that the suckers were, in this case at least, a positive gain to the crop.

These facts show pretty conclusively that the limit to the yield of this noble grain has not yet been nearly reached. There are vast possibilities in this crop to which we ought to attain. The great improvement in modern implements and in methods of cultivation, instead of enabling us to put less labor and capital in the corn crop, ought to stimulate us to more thorough cultivation, until the average yield of the State has been raised vastly above what it is now.

Resolutions.

At the last meeting of Manhattan Grange No. 748 the following resolutions were adopted:

WHEREAS, All our knowledge of agriculture and all improvements in its methods are in good part the result of careful experiment, and,

WHEREAS, One of the great objects of the Order of Patrons of Husbandry is the dissemination of useful information among the farmers, and especially such knowledge as shall be of direct assistance to them in the line of their vocation, therefore, be it

Resolved, That each brother be requested to devote at least one-fourth of an acre to experiments in the growth of corn, the variety of corn employed and the method of the experiment to be decided by the experimenter, and the product to be donated to Manhattan Grange No. 748; and it is further

Resolved, That each experimenter be requested to keep an accurate account of all the details of the management of the crop, including such items as kind of soil, variety of grain, time of planting, the special treatment given the crop, and finally the number of pounds of corn in the ear obtained; and it is further

Resolved, That Manhattan Grange No. 748 shall offer a first premium of \$5, a second premium of \$3, and a third premium of \$2, for respectively the first, second and third most successful results, according to the plan suggested above, the award to have reference to the completeness of the report, skill and originality of the experiment, and the yield of grain; and be it further

Resolved, That this Grange shall hold a corn festival during the coming autumn, after the harvesting of the crop, at which time the awards shall be made, and specimens of the corn raised by every member shall be placed on exhibition.

E. M. SHELTON,
STEPHEN BARNES,
RICHARD KIMBALL, } Committee.

Exportation of Beef.

One very strange thing has been developed by the shipment of fresh meats from this country to England. These meats are sold in that country at from twelve to thirteen cents per pound. It is stated, by those engaged in exporting American meats, that "good beef can be transported through the middlemen from Texas or Colorado, butchered, shipped to England, and there sold at a fair profit, for an average of less than nine cents a pound." Now, if this is the case, and it certainly is true that American beef is sold in England at from twelve to thirteen cents per pound, why is it that here in Kansas we are compelled to pay from twelve to fifteen cents per pound, and in New York from twenty to twenty-five cents per pound?

The freight on shipments from New York to Liverpool is three cents per pound. From Kansas to New York the freight charges range from two to three cents. Yet cattle are shipped from Kansas to New York, there slaughtered and then shipped to England, where the meat is sold at prices no higher than we have to pay right here in Atchison.

There is something about this that cannot be very satisfactorily explained. It is very singular, to say the least. For the exporters declare that they make a fair profit by selling beef in England at even nine cents a pound. It costs at least five or six cents, in freights, to get the beef to England. Beef ought, therefore, to be sold in Kansas at from five to six cents less than in England, which would make the price for different cuts range from five to ten cents.—*Atchison Champion.*

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ELEMENTS OF AGRICULTURAL GEOLOGY.

By WM. M. KEDZIE, M. S., Professor in Kansas State Agricultural College.

Agriculture being the leading interest in Kansas, it is of prime importance that the sciences bearing upon it should have a place in the State system of education. That this fact has been very generally recognized we have a proof in the adoption of article VI, Section 6, of the Kansas Session Laws of 1876. It demands that every applicant for a teacher's "A" certificate shall be familiar with "the elements of Geology so far as relates to the manner of formation of soils and their adaptation to the purposes of production." There has hitherto been no text-book published, however, at all adapted to the wants of the common schools in this respect. *The Elements of Agricultural Geology* has been written by Professor Kedzie, at the urgent solicitation of many prominent educators throughout the State, with the object of supplying this want. It presents the subject in simple, untechnical language that will be easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and at the same time, from a scientific point of view, it is rigidly exact.

The Origin and Formation of Soils, particularly those of Kansas, forms the second part of the book, and will be of interest to agriculturists generally. Teachers designing to apply for the "A" Certificate will find the work exactly adapted to their needs as far as this branch of study is concerned.

Professor Kedzie's reputation as an educator being so well established throughout the State, the Publishers present his work with every confidence that it will meet with a most favorable reception. Price, 12mo., cloth, 96pp., wholesale, \$4.80 per dozen. VAN ANTWERP, BRAGG & CO., Cincinnati and New York. (2-1f)

KANSAS STATE AGRICULTURAL COLLEGE.

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CALENDAR:—Winter Term began Thursday, January 4th, 1877, and closes May 23d, 1877.

For further information, apply to

J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, MAY 19, 1877.

No. 5.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

Report of Prof. C. V. Riley to Gov. Anthony on the Grasshopper Prospects in Kansas.

SALINA, KANSAS, May 10, 1877.

To Geo. T. Anthony, Governor of the State of Kansas,

MY DEAR SIR:—Your favor of the 5th inst. is before me. I am entirely of your opinion as to the importance of getting at the real facts and prospects in connection with the locust injury. The dispatches in our papers are so often colored in the interest of land owners and loan and real estate agents, that the community at large places but small reliance upon them. It is, moreover, the avowed policy of many journals to suppress the truth about locust troubles, under the mistaken notion that such suppression benefits, whereas no policy is more injurious to a community in the end.

In the present instance the favorable reports are, in the main, warranted; and there is no doubt in my mind that throughout the larger part of Kansas the battle is already fought, and the future injury must be comparatively trifling. For nearly three weeks I have been traveling and observing in Texas and southeastern Kansas, and feel safe in making the above statement for that part of your State which I have visited. Throughout the locust area of the State south of the Kansas Pacific Railroad—which area includes most of the region bounded on the east by a line running from a little west of Lawrence toward Fort Scott, and on the west by another passing up through Hutchinson and Ellsworth—the eggs were laid in sufficient quantities to have given birth to locusts enough to have eaten everything green by the time they attained full growth, under conditions favorable to them. Many of the eggs were destroyed by the authomyia egg parasite and the other enemies described in my writings. Some of them hatched in the fall, and many more during the warm weather of the latter part of January and fore part of February. The insects thus hatched perished. The bulk of the eggs hatched during the last week of March and the early part of April. The young insects were very thick then; they commenced to do injury and begat general fear. The farmers for the most part fought them with energy. Then followed, from the middle of April on, a period of cold and wet weather; the enemy rapidly weakened and was from all quarters reported as disappearing.

DISAPPEARANCE OF THE YOUNG.

In every part of the State which I have visited, and where I have examined carefully the condition of things, the young locusts have very largely—in some instan-

ces totally—disappeared; and I now have no doubt whatever that the reports of such disappearance that are so general throughout the entire portion of the State that was threatened, have their foundation in fact. This disappearance is generally attributed to death and dissolution from the cold and wet weather that followed the principal hatching. That this weather has been largely instrumental in causing death among the hopping pests I have no doubt, because there is always a certain portion just hatched or just molting, which is particularly tender and susceptible to the injurious effects of cold, drenching rains. But they have been dying and are now dying fast during the present warm and sunny weather, and these insects are not parasited but simply diseased—sick.

Prof. Riley indicates the natural enemies of the locust as: First, snakes, gophers, field mice and birds; second, the farmers; third, the weather; and, fourth, the climate; and says:

Such are the generally favorable conditions throughout the area which I have already mentioned, and of which alone I can speak with assurance. How far the same conditions prevail north of the K. P. and in the other States threatened, I cannot positively tell yet; but similar reports of disappearance are very general, and I am strongly of the opinion that we shall have a repetition of the comparative harmlessness of 1867.

VIGILANCE STILL NECESSARY.

I am the last to desire that this favorable report should lull your farmers into an undue sense of security. The security against injury will depend altogether on the proportion of eggs which have hatched. Thus, in the more sandy belt west of a line roughly drawn through Junction City and Florence, not one per cent of the eggs remain unhatched; while east of that line, where the eggs were laid later and the soil is mostly colder and more tenacious, from one-half to three-fourths of them are yet unhatched and, with few exceptions, sound. In the former area a few fields may suffer, especially along the river courses, but there will be no general destruction; in the latter the injury may yet be great and should be provided against.

REMEDIES.

You request my suggestion as to mode and time of destroying. In the destruction of the eggs it is too late to accomplish anything now; but I will state that my trip through your State has more than ever confirmed me in the opinion which I have for some time held, and which was supported by experiments last winter, viz.: that harrowing in the fall is the most effectual way of destroying them. Wherever practiced no eggs have hatched. The different means of destroying the young insects I have given at length in the Missouri Reports, and they have been copied in one of the late monthly reports of your board of agriculture. They necessarily vary somewhat with the nature of the soil and of the crops, and I have

time only in this connection to give you the principles rather than details. For convenience these means may be classified into 1st, *burning*; 2d, *crushing*; 3d, *trapping*; 4th, *catching*; 5th, *the use of destructive agents*.

1. *Burning*.—In a prairie and wheat-growing country like that which I have passed through, burning is perhaps the best of all means of warfare against the young locusts. These, for some time after they hatch, may be driven into windrows or heaps of straw scattered around and through a field and burned. During cold, damp weather they will of their own accord congregate under such shelter, and I have known them to be exterminated by burning where no driving was necessary. As to burning the prairie in the spring, while there is much to be said pro and con, it is, all things considered, beneficial in this connection. Scarcely any eggs are laid on raw prairie, and the impression that locusts are slaughtered by myriads in burning extensive areas is a false one. It is beneficial principally around cultivated fields and road-sides, from which the locusts may be driven, or will of themselves pass for the shelter the prairie affords. The burning of extensive prairies after the bulk of the locusts hatch, destroys the nests and eggs of some game birds which feed upon the locusts, but the birds themselves always escape and nest again; whereas, many noxious insects like the chinch-bugs are killed; so that, even leaving the locust question out of consideration, the burning would yet prove advantageous to man.

2. *Crushing*.—Can be resorted to with advantage only in exceptional cases, where the ground is smooth and hard.

3. *Trapping*.—This is very effectual, especially when the insects are making their way into a field from roads and hedges. "The use of nets or seines, or converging strips of calico or any other material, made after the plan of a quail net, prove most satisfactory. By digging a pit, or boring a post auger hole, three or four feet deep, and then staking the two wings so that they converge toward it, large numbers of the locusts may be driven into the pit and buried, after the dew is off the ground."—*May 8, Mo. Report*. Ditching or trenching will come under this head; and, after the insects have commenced to travel in schools, proper ditching is the most effectual protection. "A ditch two feet wide and two feet deep, with perpendicular sides, offers an effectual barrier to the young insects. They tumble into it and accumulate, and die at the bottom in large quantities. In a few days the stench becomes great and necessitates the covering up of the mass. In order to keep the main ditch open therefore, it is best to dig pits or the deeper side will accumulate and may be buried."—*Ibid*. There will be much snap judgment passed upon ditching by those who employ it against the very small and newly hatched locusts, which more easily crawl up a perpendicular bank than the larger ones; but I speak from past experience, and would urge all who are

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, MAY 19, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Seventh Semi-Annual Meeting of the Kansas State Horticultural Society will be held at Abilene, Dickinson county, on Wednesday and Thursday, June 6th and 7th, 1877. The citizens of Abilene have generously tendered the free hospitality of their homes to members and visitors from abroad, and the usual reduction in fare will be granted by the several railway companies.

A TELEGRAM just received from Col. Hallowell announces the death of his father yesterday, and as a consequence his inability to be present at the Commencement. We exceedingly regret both his absence and its cause, and tender to him very earnest sympathy in his bereavement. Col. Hallowell had accepted the invitation to deliver the annual address before the College, which has been announced for next Wednesday evening. Of course, the engagement cannot now be fulfilled, and the Commencement exercises will close with the orations of the graduating class next Tuesday evening.

WE thought we had a sure defense against the inclination of the locust to leave the nice grass and climb a tree after the sour fruit or tough leaves. It consisted in a band of cotton-wool or batting tied around the trunk. We have tried it; so have the g'oppers. The little fellows don't go over it; some of the larger ones do,—enough of them to create a doubt regarding the efficacy of the cotton. It may be, however, that when they grow larger and heavier it will work well. Prof. Gale reports favorably, thus far, on the efficiency of a collar of heavy paper, oiled, put around the tree and fastened with grafting wax.

The Hopper-Grass.

For nine consecutive days it has been raining, sometimes heavily, at others in showers, but with great ease and persistence. Between three and four inches of water have fallen; and during this period the thermometer has not reached the "hatching point" of the grasshopper more than half a dozen times, and generally for only two or three hours at a time. If there ever were a fair test of the theory that rain either kills the 'hopper or damages the eggs, certainly this is one. We have had dashing rains with heavy gales, deluges without wind, solo rains, pours diminuendo and crescendo, Scotch mists, and drizzle-drozzles. The earth is soaked into slushiness, the very atmosphere is oozy, and the trees slop over their loads of moisture. Little puddles are

dotted over every field and elbow each other as they wink at the big ponds down in the bottoms. Birds go switching themselves around like dogs just after a swim, and when they begin to sing a quart or so of water comes spurting from their throats before the sound can get out of doors. The keel of Noah's ark was as dry as the inside of a powder-horn compared with the general sloppiness of things around here. And if the 'hoppers can stand all this without blushing for shame; if they propose to go on living, growing, gnawing, kicking, and snorting around just as if it hadn't rained and wasn't wet, then we shall lose all faith both in their modesty and in the theory that water damages hopper-grasses.

Better Stock for the General Farmer.

The exportation of dressed beef and of live stock generally to Great Britain has ceased to be a "ten days' wonder." It is now one of the fixed facts of commerce, and seems to have as firm a basis as the cotton or the grain trade. To the English farmers this remarkable trade has been gall and bitterness, and they not unnaturally profess to see in it the destruction of the most profitable branch of their business,—the production of meat for the market. But before accepting these ideas, it will be well to remember that predictions of a like character were freely made as to the effect of the corn law, which gave to Great Britain free trade in grain. And yet British agriculture was never as flourishing as it has been since 1846. The truth is, active competition rarely does injury to a business on a natural basis and in the hands of intelligent, enterprising men. The importation of American beef into England will compel the English farmer to practice that "better farming" so vigorously championed by Mr. Mechi; it will stimulate that same "better farming" in America; and that to both countries it will be a lasting benefit we cannot doubt.

Whatever may be the opinions as to the effect of this great trade upon English farming, there can be but one as to its value to American agriculture. Indeed, its influence is already powerfully felt, and especially in the impetus it has given to the production of better stock by the general farmer. The farming class in this as in every other country is not easily moved, and a very little examination will show that all the great improvements in modern agriculture have been brought out under the whip and spur of necessity rather than as the result of pre-arranged plans based on *a priori* principles. So long as the farmer found for his beef a market that made next to no discrimination as to the quality of the article, he saw little inducement to improvement. But this new trade places the entire cattle trade in a new light. The thousands of beeves that are weekly shipped from New York have no

reference to "Texans," "natives," or "scalawags;" these figures refer to so many well-fattened Shorthorns, Herefords, Devons, or Galloways, grade or pure-bred. In fact, this whole business is placarded, "No scrubs need apply;" its immense advantages are for the enterprising farmers, those who put skill and labor and capital in their business. It is upon such facts as these that farmers are prone to act, and already there is a stir in the direction of the improvement of the live stock of the farm that this country has never known before, and if this movement shall continue as it promises until the vast grazing lands of America are occupied solely by animals bred for some special purpose, the improved breeds in short, it will be a permanent addition of millions to the resources of American agriculture.

The exportation of horses is another branch of this trade that has recently received an enormous impetus. It is said that all the space on outgoing steamers which can be secured is engaged for horses many weeks before sailing day. The style of horses demanded by this trade is large, bony animals, sixteen hands high and upwards, of good style and action, the "general purpose horse" in short, and precisely the class of horses of which we have fewest to spare.

What is true of cattle and horses is true of every kind of farm stock. The demand for good animals at remunerative prices is very great and constantly on the increase, but for the great mass of scrubs and natives that disgrace our farms there is always a slow market at prices that barely cover transportation charges.—Prof. Shelton.

THE other day one of the editors of the *Hawkeye* cut out of an eastern paper a map of the Russian war, and hung it on a hook for reference. One of the compositors, prowling about for copy, got hold of it, thought it was an editorial article, and set up a column and a half on "A new plan for funding the national debt," before the foreman discovered what he was at and killed him.—*Burlington Hawkeye*.

IT seems to us that the Grange Educational Committee, in recommending for farmers' children instruction "in the elements of geology so far as relates to the manner of formation of soils and their adaptation to purposes of production," marked out a very appropriate subject of study for farmers' boys. Prof. Kedzie, in preparing a book to meet this recommendation, as incorporated in the law of the State, has done what will strike common sense people as just the kind of thing fitting to come from a teacher in the farmers' State Agricultural College. If Prof. Thomas, in teaching geology, has found nothing in the textbooks he employs touching the subject embraced in Kedzie's book, possibly he may find something in the book which it would be profitable even to the city children to have added to their instruction.—*North Topeka Times*.

THE INDUSTRIALIST.

SATURDAY, MAY 19, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 10:02 A. M.
Going West..... 5:46 P. M.

FREIGHT ARRIVES.

Going East..... 10:35 P. M., and 5:25 P. M.
Going West..... 5:40 A. M. and 7:20 P. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.
GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending May 18th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.	Mean Height.	
Saturday.....	12	65	54	59.50	28.71
Sunday.....	13	71	56	66.25	28.71
Monday.....	14	76	57	68.25	28.72
Tuesday.....	15	75	60	68.50	28.71
Wednesday.....	16	74	65	70	88.60
Thursday.....	17	83	65	76	28.60
Friday.....	18	73	55	65.50	28.67

Average temperature for the week, 67°.71.
Range of temperature for the week, 29°.71.
Rainfall for the week, 2.87.

The Board of Regents will meet next Monday morning.

This is the first week this term that fires have not been kept up in the different buildings.

F. H. Barnhart, editor of the *Osborne County Farmer*, Osborne City, paid the College a visit last Thursday.

President Anderson will preach the Baccalaureate sermon to the graduating class to-morrow at three P. M., in the Presbyterian Church.

It has rained every day this week, and been pretty warm every afternoon. The consequence is that vegetation of all kinds is making an unusual growth.

Miss Nellie Sawyer, of the class of '76, has come up from Ottawa, Franklin county, to spend Commencement week and visit among her many friends. She is stopping at Prof. Kedzie's.

At a meeting of the students yesterday afternoon, it was decided to have a farewell party next Wednesday evening. The music, sewing and telegraph rooms of the mechanical building have been secured for this purpose, and preparations are being made for a grand, good time. All are invited to attend.

The Senior class visited Mrs. Cripps in a body yesterday, and W. C. Howard, acting for the class, presented her with a fine volume entitled, "The Golden Book of English Song." Mrs. Cripps was very much surprised, but responded as best she could to the remarks of Mr. Howard, and thanked the class very heartily for their kind remembrance of her.

The evening of Thursday, the 17th inst., was the occasion of a very enjoyable social gathering by the Senior gents and their lady friends at the home of Miss Ella Child, the lady member of the class. The party convened in answer to invitations given by Miss Child, and, although the night was not light nor the roads high and dry, every member was present and does not in the least regret it. We cannot particularize, but suffice it to say that the cake, peaches and cream, lemonade and apples furnished by the hostess gave the physical all that was needful, while the mind was satisfied with all that wit and music could afford. The Seniors will not soon forget this pleasant interview.

Our revolvers are loaded and we would like to see the man who says that the wet weather has destroyed the 'hopper eggs. This is Wednesday,

and, after a deluge this morning, the little scoundrels are coming out of the ground and fairly whitewashing the earth. The outside row of the apple orchard is black with chaps not a quarter of an inch long climbing up the trees, some of them being eight feet from the ground and still moving upward. Down at the strawberry patch they are standing on the port leg and kicking time with the starboard foot as they scream in grand chorus, "We are coming, Father Abraham, three hundred thousand more!" We would just like to see for a few minutes the man who says the 'hoppers are all killed.

Recognizing Mrs. Werden's valuable services in Manhattan during her long residence here, the leading musicians and citizens have offered her a benefit entertainment. She has accepted, and a musical concert will be given for that purpose in Peak's Hall, Monday evening next, beginning at eight o'clock. Admission, 25 cents; reserved seats, 50 cents. Mrs. Werden has always assisted the students in their socials, entertainments, and pleasures of every kind; and they will undoubtedly improve this last opportunity to show their appreciation of her and gratitude for her generous assistance.

This lady has been connected with the College as teacher of instrumental music for eight or nine years, and has ever proved herself an able and accomplished musician, having thoroughly prepared for her work in the musical institutes and conservatories of the East. As she goes to her new home in Joplin, Mo., we bespeak for her a kindly reception by the citizens of that busy, bustling, and rapidly growing young city.

PROGRAMME.

The Term examinations will be held in the several recitation rooms as follows:

MONDAY.

8:40 to 10:20.—Algebra, Analytical Chemistry, Drill in Arithmetic "A," Mental Philosophy, Household Economy, Drawing Carpentry, Telegraphy, Printing, Music.

10:20 to 12:00.—Algebra, Elementary Physics, Physical Geography, Landscape Gardening, Drill in Arithmetic "B," Drawing, Sewing, Blacksmithing, Printing, Telegraphy, Music.

TUESDAY.

8:40 to 10:20.—Engineering, Advanced Physics, Practical Agriculture, Practical Horticulture, Drill in Arithmetic "A," Drill in English, Drawing, Sewing, Wagon-making, Printing, Telegraphy.

10:20 to 12:00.—U. S. Constitution, Geology, Drill in English, Drawing, Sewing, Carpentry, Printing, Telegraphy, Music.

2:00 to 4:00.—Surveying, U. S. History, Drawing, Scroll-sawing, Sewing, Printing, Telegraphy.

The Commencement exercises will take place Tuesday, May 22d, 8:00 P. M., at the Presbyterian Church. The programme is as follows:

MUSIC.

INVOCATION.

MUSIC.

"Law," — WILLIAM ULRICH, Riley county.

"Elements of Success," — LOUIS E. HUMPHREY, Davis county.

MUSIC.

"Agriculture a Progressive Art," — FRED O. HOYT, Brown county.

"The Winning Worker," — JOHN S. GRIFFING, Riley county.

MUSIC.

"Man the Arbiter of his own Destiny," — MARION F. LEASURE, Linn county.

"Cut your Coat according to your Cloth," — JAMES F. LA TOURRETTE, Colorado.

MUSIC.

"National Education," — WALTER C. HOWARD, Riley county.

"The Line," — ELLA S. CHILD, Riley county.

MUSIC.

"Immortality of Motion," — GEORGE H. FAILYER, Cherokee county.

MUSIC.

Announcement of Degrees, by the President of the College. Conferring Degrees, by Lieut. Gov. Salter, President of Board of Regents.

MUSIC.

BENEDICTION.

A Thorough and Direct Education for the Farm, Orchard, Shop and Store.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Township Books. Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Bookseller and Stationer.—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan. 37-3m

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

ELEMENTS OF AGRICULTURAL GEOLOGY.

By WM. M. KEDZIE, M. S., Professor in Kansas State Agricultural College.

Agriculture being the leading interest in Kansas, it is of prime importance that the sciences bearing upon it should have a place in the State system of education. That this fact has been very generally recognized we have a proof in the adoption of article VI, Section 6, of the Kansas Session Laws of 1876. It demands that every applicant for a teacher's "A" certificate shall be familiar with "the elements of Geology so far as relates to the manner of formation of soils and their adaptation to the purposes of production." There has hitherto been no text-book published, however, at all adapted to the wants of the common schools in this respect. *The Elements of Agricultural Geology* has been written by Professor Kedzie, at the urgent solicitation of many prominent educators throughout the State, with the object of supplying this want. It presents the subject in simple, untechnical language that will be easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and at the same time, from a scientific point of view, it is rigidly exact.

The Origin and Formation of Soils, particularly those of Kansas, forms the second part of the book, and will be of interest to agriculturists generally. Teachers designing to apply for the "A" Certificate will find the work exactly adapted to their needs as far as this branch of study is concerned.

Professor Kedzie's reputation as an educator being so well established throughout the State, the Publishers present his work with every confidence that it will meet with a most favorable reception.

Price, 12mo., cloth, 96pp., wholesale, \$4.80 per dozen. VAN ANTWERP, BRAGG & Co., Cincinnati and New York. (2-1f)

[Concluded from first page.]

threatened to employ this mode of protection from now on. Where the soil is tenacious, and water or a little kerosene can be used at the bottom, all the better; and the side to the garden, orchard, nursery or field to be protected should be kept friable by means of a fine rake. In proportion as the soil is loose and apt to fill up by strong winds, ditching will fail.

4. *Catching.*—There are innumerable mechanical contrivances for this purpose, and I have already some forty or fifty designs. I recommend, myself, as the cheapest and most satisfactory those intended to bag the insects. A frame two feet high and of varying length, according as it is to be drawn by men or horses, with a bag of sheeting tapering behind, and ending in a smaller bag or tube—say one foot in diameter and two or three feet long—with a fine wire door at the end to admit the light and permit the dumping of the insects,—will do admirable work. The insects gravitate towards the wire screen and when the secondary bag is full, they may be emptied into a pit dug for that purpose. These bagging machines will prove most serviceable when grain is too high for the kerosene pan. The curious suction fanning machine, invented by Mr. J. C. King, of Boulder, Col., may be mentioned in this connection. A strong draft sucks the insects up through an elongate mouth with lips, that runs near the ground, and draws them up through two funnels and knocks them to pieces. I have seen the working of that in Mr. T. C. Henry's possession, at Abilene. It is an admirable invention and may be improved so as to be of great service in Colorado; but it will be of less use here, and on account of its expense will never compete with the more simple methods.

5. *Use of Destructive Agents.*—Kerosene or any of its cruder forms is the most effective. In Colorado they use it to good advantage on the water in their irrigating ditches, and it may be used anywhere in pans or in saturated cloths stretched on frames, drawn over a field. A good and cheap pan is made of ordinary sheet iron, eight feet long, eleven inches wide at bottom, and turned up a foot high at back and an inch high in front. A runner at each end, extending some distance behind, and a cord attached to each front corner, complete the pan at a cost of about \$1.50. I have known from seven to ten bushels of young locusts caught with one such pan in an afternoon. It is easily pulled by two boys, and by running several together in a row, one boy to each outer rope and one to each contiguous pair, the best work is performed at the least labor. Heavier or longer pans to be drawn by horses should have transverse partitions to avoid spilling of the liquid. The oil may be used alone so as to just cover the bottom, or on the surface of water, and the insects strained through a wire ladle. When the insects are very small, one may economize in kerosene by lining the pan with saturated cloth; but this becomes less efficient afterward, and frames of cloth saturated with the oil do not equal the pans. Where oil has been scarce, some persons have used concentrated lye, but when used strong enough to kill, it costs about as much as the oil. The oil pans can only be used when the crops to be protected are small.

CONCLUSION.

I have endeavored, in the above hurried notes, to comply with your request, and have necessarily left much of interest unsaid.

Altogether, the prospect is much brighter than I had dared to hope. There is some apprehension from the winged insects that have been for some time leaving Texas, where little was done to fight the pests, and where much injury has been done in spots, particularly from Denison southwestwardly. But in passing from the south, the injury done by the winged insects is never materially felt. They are unhealthy and less voracious, and the crops are well advanced. They also pass mostly over the western part of your State. Permit me to remark, in conclusion, that I have met with few persons who do not feel that if taken in time the young insects are easily mastered and need cause little alarm in future—a fact which I have long since insisted on, and which is generally admitted by all who have had experience. When the locust scourge is fully understood, and the farmers unite in determined effort to counteract it, it will cease to be so much of a bugbear, and no longer interfere with the settlement of the beautiful and productive western plains which it visits at irregular intervals.

I have the honor to remain,

Yours, truly,

C. V. RILEY.

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the *INDUSTRIALIST* by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

Record, Beloit, Kansas. A real-estate paper. 25 cents per year. Tells all about north-western Kansas. Kelly & Bertram, Proprietors.

News, Girard, Crawford county. A Democratic weekly paper published at the county seat of Crawford county, \$1.50 per year. Tipton & Lamoreaux, Editors.

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Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

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Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

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CALENDAR:—Winter Term began Thursday, January 4th, 1877, and closes May 23d, 1877.

For further information, apply to

J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

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The Prospects of American Agriculture.

[Extract from an address delivered by Joseph Harris, before the National Agricultural Congress, at Philadelphia, September 12th, 1876.]

I have been asked to write a short paper on the prospects of American agriculture. I did not select the subject myself. I am not a prophet or the son of a prophet, and can only judge of the future from the past and the tendencies of the present.

To me, the signs of the times are favorable and the prospects bright. Given a soil in the same condition and with a similar season, no one, I think, will dispute the assertion that a given amount of time and labor will produce more wheat, barley, oats, corn, hay, roots, clover and grass seed; more cotton, rice, hemp, flax and tobacco; and more beef, mutton, wool, pork, milk, butter and cheese to-day, than it would twenty-five, fifty, or one hundred years ago.

And the same is true, as a rule, of the articles for which a farmer wishes to exchange his surplus products. A given amount of time and labor will produce more and better implements and machines; more woolen, linen and cotton cloth; more boots, shoes, stockings and gloves; more pins, needles, buttons and thread.

The same amount of labor will dig more coal, iron and silver, and will saw and plane more boards, and give us more nails, hammers, glass, putty and paint; will give us more furniture for our houses, and more and better light, and more, if not better, books, papers and pictures. In short, owing to the discoveries of science, to increased skill, and to mechanical and chemical inventions, a given amount of labor will produce more of the necessities and luxuries of life which a farmer needs to procure in exchange for his farm products than it would 25, 50 or 100 years ago.

So far as material prosperity is concerned, therefore, we are, as a nation, or a community of nations, better off than we were 25, 50 or 100 years ago. We need not work so hard, or, if we work as hard, we can have more of the necessities and luxuries of life. I am speaking now of all classes.

But of course it does not necessarily follow that one class, in exchanging its products for the products of another class, gets at all times a fair and just equivalent. And no acts of legislation will make a man just and liberal. If a barber in Kansas refuses to shave a farmer for less than two bushels of corn, the farmer can let his beard grow. And if a shoemaker wants 50 bushels of potatoes for a pair of boots the farmer may have to submit to the exchange. But such a state of things in a free and intelligent community will not last long. The farmer or his

son will turn shoemaker, and by and by the shoemaker will want to turn farmer. This matter of the exchange of labor or its products must be left to regulate itself. Monopoly, extortion, and all forms of injustice seldom prosper in the end.

To me, the prospects of American agriculture never were so bright as at the present time. There is plenty of work to be done. The greatest curse that can befall a man or nation is voluntary or involuntary idleness. "Nothing to do" means poverty and misery. The less a man does the less he is inclined to do. The more he does the more he can do. Idleness leads to weakness and inability. Work gives strength and skill, it banishes despondency and brings in hope, and hope leads to continued effort. If we fail one year we try again. We get to have faith in the soil and in ourselves. We have to compete with our brother farmers and with the farmers of the world. We feel that farming is no child's play, and we must try to acquit ourselves like men and be strong.

Of our many blessings, therefore, not the least is the fact that we have now, and shall have for years to come, plenty of work on our farms.

There are farmers who thought that when their farms were cleared of the forest, and when the barns and fences were built and roads made, there would be little to do. Philosophers also told us, and truly, that trees absorbed carbonic acid from the atmosphere, and that when we cleared up a district we not only removed these natural purifiers of the atmosphere, but when the trees were burnt or decayed large quantities of carbonic acid were thrown off, and also that man and beast were daily and hourly polluting the atmosphere in the same way. All the processes and operations of civilized life produced enormous quantities of carbonic acid, and we at the same time were removing the trees which nature had provided to purify the atmosphere. Now all this was true enough, but the great fact was not then known that an acre of corn would take up probably five times as much carbonic acid as an acre of forest trees, and that wheat, barley, oats, grass and clover, and all our cultivated plants, were much more efficient purifiers of the atmosphere than the native forests. The fear that this continent would become a black hole of Calcutta has proved groundless; and so the idea that when we have done the pioneer work of agriculture there will be little to do, is equally erroneous. The better we farm, the farther we advance; the more improvements we make, the more work will there be to do. Let us be thankful. On my own farm I have little or no wood to chop in winter, and yet I find no difficulty in keeping nearly as many men at work in the winter and spring months as during the month of harvest. In fact, wages being much less, I employ more men in the spring than during the summer.

Few farmers, twenty-five or fifty years ago, could have anticipated such a result. The truth is, there is scarcely any limit to

the amount of work to be done on the farm. The more we do the more there is to be done. Work makes work. And as a rule our profits come not from land but from labor.

When the duties were taken off foreign grain, the English farmers thought their occupation was gone. They thought it was impossible for them to compete with the owners of cheap land. They really believed that there was land so rich that in the language of Douglas Jerrold it "needed only to be tickled with a hoe to make it laugh with a harvest." Experience has proved their fears groundless. It will be so in this country. Many of us who reside in the older settled States think we cannot compete with the cheap rich lands of the West. And no doubt this competition demands our best thoughts, and will tax our skill and energy. We may have to make many and frequent changes in our rotations and general management. But we need not despair. We shall be able to make a living. There is no paradise on earth. "By the sweat of thy face shalt thou eat bread." There will be found advantages and disadvantages in all sections. More depends on the man than on the situation. I read a remark a few days ago, in one of our leading papers, that, owing to the enormous amount of land in this country, it would be 250 years before there was any real necessity for scientific agriculture. The writer evidently attached some technical and definite meaning to the phrase "scientific agriculture." The truth is, however, that what would be scientific farming in England might not be scientific farming in America; what would be scientific farming in New England or New York might not be scientific farming in Kansas or California. He is the scientific farmer who makes the most of his labor and capital. And there is just as much necessity for scientific farming to-day as there will be 250 years hence. And true scientific farming will be just as profitable at the present time as it ever has been in the past or ever will be in the future.

I greatly mistake the signs of the times if, in the near future, we shall not find as many and as true scientific farmers in America as are to be found anywhere in the world.

Take up an English agricultural paper and, no matter what subject is under discussion, you will not read far before allusion will be made to the question of "Tenant Rights." A farmer's club cannot discuss the science and practice of feeding stock without getting excited over the malt tax. "If we could feed malt," they say, we could then raise cheap beef and mutton. If we could get compensation for our unexhausted improvements, we could employ our skill and capital to advantage. We are not without our troubles here. We have some burdens that are hard to bear. But at any rate, we are our own land owners. Any improvements we make are made on our own land. Our land is not entailed. We

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, MAY 26, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

GENERAL JOHN FRASER, ex-Chancellor of the State University, is one of the brainiest men and ripest scholars in the educational ranks of the United States. Besides the service rendered to his country, Kansas is especially indebted to him for the organization and development of its State University, and for a more wisely planned University building than can elsewhere be found. He has made a mark which will never be erased from our history. Because of his eminent worthiness as a scholar and work as a Kansan, the Kansas State Agricultural College, at its late Commencement, conferred upon General Fraser the degree of Doctor of Laws, LL.D.

SOMETIMES through ignorance, and in other cases by intention, the false idea is circulated that the Agricultural College is merely a school for teaching the trades, and that little or no instruction in literary science is given. For the purpose of showing the facts, we present the questions on which the respective classes were examined this week, except in the departments of Drawing and Household Economy, which are postponed until our next issue for want of space. It must be borne in mind that these only indicate the ground covered by classes this term, and therefore do not present the whole course of study.

Persons competent to judge can easily satisfy themselves as to the nature, value and scope of the studies taught; and we will put our examinations against those of any other institution, anywhere, in a decision of the question of thoroughness and of the skill of the student. If this course be not both liberal and practical, and if it be not squarely and wisely adapted to such an education as will enable a boy to farm successfully or a girl to earn a livelihood, a steam engine is not adapted to furnish power. Of the eight now graduating, all except one or possibly two will follow agricultural or mechanical vocations, and the young lady can earn her own living. Neither this nor any other Kansas institution has ever turned out a better class. An account of the Commencement exercises will be given in our next.

Examination Questions.

PRACTICAL AGRICULTURE.

During the term just closed, the class has had under consideration the following topics: Stock Breeding, including principles of breeding and characteristics of

breeds; Farm Implements; Simple Tillage; Hoed Crops; Farm Draining.

1. Advantages of stock-raising to general farmer. How do you decide which is the best breed?

2. State and illustrate principles of similarity, variation and atavism.

3. How may a distinct breed be formed? When may in-and-in breeding or cross breeding be resorted to?

4. Principal causes of variation in plants and animals.

5. Distinguish a "native" and "pure-bred." Principal difference in anatomical structure of ox and horse.

6. Need of simplicity in structure of farm implements. Illustrate modern character of agricultural implements.

7. Size of wheel as affecting friction at axle. Correct form of cogs and why.

8. Why are the front wheels of the wagon made the smaller? Show correct and incorrect forms of double-tree.

9. Short and long traces as affecting draught.

10. Hoed crops. Their place in a system of husbandry. Why is manure of the season applied to.

11. Advantages of thorough drainage.

12. Mitigation of draught by drainage. Germination of seeds in drained and undrained land.

PRACTICAL HORTICULTURE.

1. What is embraced under the term Horticulture?

2. How do the laws of atmospheric moisture and motion affect horticultural pursuits, and also the laws of heat and light?

3. Selection and treatment of soils and subsoils for orchard, garden, etc.

4. Advantages of shelter and protection for plants. Best material for and modes of protection.

5. State how shelter belts afford true radiation of heat.

6. Modes of obtaining new varieties, and how to propagate the variety.

7. Location of the orchard; preparation of the ground; methods of laying out and planting.

8. Apple. Order, genus, species, history and modes of propagation.

9. Pear. Order, genus, species, history. Modes adapted to improve the fruit and to secure early fruitfulness, and the result with respect to the health of the tree.

10. What is the botanical character of a plant, and what is the system adopted in giving names to orders, genera, species and varieties?

LANDSCAPE GARDENING.

1. What relation does the study of lines sustain to Landscape Gardening? How can these lines be classified?

2. What in general constitutes the real worth of the landscape gardener?

3. How far should the rules of Landscape Gardening be applied to the farm?

4. Name the rules that should guide in the selection of a home.

5. What are we to avoid in the improvement of grounds?

6. Name the chief objects which we should seek to attain in the improvement of grounds.

7. The location of drives and walks, and

the grouping of trees with reference to these.

8. Selecting and grouping of trees in general.

9. Treatment of the lawn, and especially the foreground.

10. Treatment of water.

ELEMENTARY PHYSICS.

1. Draw and describe the Hydraulic Press and its action.

2. What is meant by a vacuum? How produced? Effects. How measured?

3. Explain determination of velocity of sound.

4. What are echoes? Kinds. At what distance formed.

5. Explain manufacture, graduation and kinds of Thermometers.

6. Describe all the causes which modify the boiling point of water.

7. How are images formed by plane mirrors?

8. Give the entire composition of the Spectrum.

9. Explain the Electrophorus and its action.

10. What was Ampere's theory of Magnetism?

CHEMICAL ANALYSIS.

Laboratory examination. Compounds placed in closed tubes, drawn by each member of the class and submitted to analysis.

CHEMICAL PHYSICS.

1. Explain the methods of equilibrium of Heat.

2. What are the causes modifying boiling point?

3. Describe the condensing engine.

4. Explain the influences favorable to formation of Dew.

5. Give three methods of determining Specific Heat.

6. Explain the entire composition of the Spectrum.

7. What is the cause of different effects of sunlight on vegetation at different seasons?

8. Explain the structure and action of Daniell's Battery.

9. What is the influence on electro-magnetism of: 1. Number of coils; 2. Diameter; 3. Length of rod; 4. Surface of rod; 5. Intensity of current.

10. Give the laws of Volta Electric induction.

GEOLOGY.

1. What rock deposits are formed by remains of life? How?

2. Explain the action of fresh water in rock making. Illustrate.

3. Give table of Geological time.

4. Describe the Continent and its rocks in Archæan time.

5. Name the principal Mollusks and Articulates of the Silurian. How did they differ from modern species?

6. Describe the Fishes of the Devonian.

7. Explain the formation of coal and the coal areas of United States.

8. How was the Appalachian Range formed?

Explain the origin, action and effects of Glaciers.

10. Name and describe the geological formations of Kansas.

TRIGONOMETRY AND SURVEYING.

The class was examined on all the subjects taken up during the term. Each member drew a set of ten questions. The following is a specimen:

1. Discuss Logarithms. Nature, use and history.
2. Discuss the Trigonometrical Functions. Name, character and value.
3. Name all the possible cases that may arise in the solution of right angled triangles. Give the solution of each case.
4. Give the solution of an oblique angled triangle, when two sides and the included angle are given.
5. Give Napier's method of solving right angled spherical triangles.
6. Describe the method of sub-dividing townships, establishing corners, and designating sections, etc.
7. Put up the Transit. Name and describe its parts. Take a horizontal angle, a vertical angle.
8. Describe the different methods of plotting a field.
9. Show how field notes are kept in leveling for a profile.
10. Show the method of leveling for cross-section. Show the method of computing earth-work.

DRILL IN ENGLISH.

1. Write a declarative sentence containing a noun in the possessive case.
2. Write a sentence with pronouns, using no nouns.
3. Name and decline each pronoun used.
4. Decline all the personal pronouns.
5. State the distinction between an adverb and an adjective, and illustrate the same.
6. Write the principal parts of the verbs *learn*, *have*, *write*, *go*.
7. What is a verb?
8. When is a verb transitive?
9. Write a short note or letter.
10. Name all the different parts of speech used in the note.
11. Write a sentence, designating the subject and predicate.

MENTAL PHILOSOPHY.

Make an abstract of all the topics discussed in the book with their divisions and sub-divisions.

1. Describe all the processes by which a "sensation" is produced.
2. What is Perception and how does it differ from Conception?
3. What is Abstraction? 4. What is Association? 5. What is Memory? 6. What is Imagination? 7. What is Consciousness? 8. What is Insanity? 9. What is Conscience? 10. Discuss the "Propensities." 11. Discuss the Laws of Habit.
12. Discuss the Benevolent Affections. 13. Discuss the Appetites. 14. Discuss the Moral Nature.
15. Discuss the Freedom of Will.

These topics were drawn and discussed after the following method:

Memory.—Power, as illustrated in remarkable cases. Duration. Is a thought ever lost? Kinds of. Circumstantial? Philosophic?

ALGEBRA.

1. Give rules for performing the operations of addition, subtraction, multiplication and division. Illustrate in each case.
 4. Discuss equations. Form, use, solution.
 5. Draw from two lists of problems. Solve one problem from each list. Those of one list will give you an affected quadratic.
 7. Write a general proportion. Make all the changes possible, designating each by its name.
 8. Find formulas for l and s in an arithmetical series.
 9. Find formulas for l and s in geometrical series.
 10. Given $a=5$, $r=8$ and $n=10$. Find l and s .
- Questions 2, 3 and 6 are omitted for want of algebraic signs to properly represent them.

CIVIL ENGINEERING.

The class finished Mahon's treatise about three weeks before the close of the term. Each member of the class read a paper on "Roads in Kansas," and this was accepted in lieu of an examination. An abstract of one of the articles may hereafter appear in this paper.

ARITHMETIC AND BOOK-KEEPING, CLASS "A."

1. Define True Discount, Present Worth, Commercial Discount, and tell how to find the present worth of a debt.
2. How do you compute the bank discount on a note, and what are the proceeds?

3. What is the face of a note at bank, due in 90 days, at twenty per cent, that will give a proceed of \$225?

4. What is a Bill of Exchange? Name the parties to the transaction, and tell how to find the face of a Sight Draft that a given sum of money will purchase.

5. Define Ratio,—arithmetical, geometrical, simple and complex. Define Proportion. Name the terms and tell how to find a wanting term.

6. If eight men are paid \$96 for six days' labor, how many men can be employed sixteen days for \$192.

7. What is the square root of a number, and how do you find it?

8. Find the cube root of 80,621,568.

9. What is Book-Keeping? Describe the three forms of Single-Entry.

10. How does Double-Entry differ from Single-Entry?

11. How is a Trial Balance made, and what is its object?

12. Define Resources and Liabilities, and tell what the balance of this account shows.

DRILL IN ARITHMETIC, CLASS "B."

1. What is a Fraction? Name its parts.
2. What is the sum of 48 9-10, 126 11-12, 38 8-15?
3. How do you subtract fractions?
4. What two ways of multiplying a fraction by an integer?
5. What will 28 5-6 bushels of wheat cost at 98 $\frac{3}{4}$ cents a bushel?
6. Tell how the pendulum is the standard of measure.
7. Write the tables of Square Measure and Avoirdupois Weight.
8. What will it cost to plaster a room 46 feet long, 28 feet 6 inches wide, and 18 feet high, at 35 cents a square yard?
9. How do you find out how many bushels a given bin will hold?
10. Write the equations of Percentage.
11. Bought a carriage for \$180; sold it for \$225. What per cent did I gain?

UNITED STATES HISTORY.

1. Date the period of discovery, and name the persons who made discoveries and explorations during this period.
2. What is called the period of unsuccessful attempts to settle? Mention parties who made these attempts.
3. What was the period of the settlement of the thirteen colonies? Name them in the order of settlement by the English.
4. Date the French and Indian War, and tell its cause and principal campaigns.
5. State the cause of the Revolutionary War, and name five of its most decisive battles.
6. Name the Presidents in order. State which served two terms, which died while in office, and which were elected by the House of Representatives.
7. The Mexican War. Date, prominent Generals on each side, and the terms of the treaty.
8. War of the Rebellion. Its cause; States that seceded. Name twelve prominent Generals who fought on either side.
9. The Constitution of the United States. When adopted; circumstances which led to it.
10. Give a description of the two Houses of Congress.
11. State all the prominent facts relative to the election of a President.
12. State the steps in the passage of a bill in order to its becoming a law.

DRILL IN ENGLISH.

1. Write your thoughts upon one of the following topics: "The Agricultural College," "Rain," "Tree Planting."
2. Name all the uses of a noun or pronoun in the nominative case.
3. Write a sentence containing an adjective proposition.
4. Write a sentence containing a personal pronoun used as the attribute of a proposition.
5. Give a synopsis of the verb *do* in the indicative mood, first person, singular.
6. A synopsis of *go* in the potential mood, third person, plural.
7. Name six places where a comma should be used.
8. Describe adverbial elements.

PHYSICAL GEOGRAPHY.

1. Subjects of geographical science. Compare the earth in its various conditions with other planets.
2. Causes of internal heat. Give volcanic zones,

naming in order the principal volcanoes.

3. Name in order: Continents having largest areas, continents having longest coast-lines in proportion to areas, continents having most highland proportionate to areas.

4. Name and give directions of primary and secondary axes of South America and Asia.

6. Distinguish continents and islands. Describe currents of the Pacific and Atlantic Oceans.

6. Distinguish astronomical and physical climates. Influence of relief forces and oceanic currents in climates of North America and Asia.

7. Describe chart showing the normal circulation of the winds.

8. Cause of the division of the equator into two parts near the equator. Explain aridity of Sahara desert.

9. Name and locate geographical races of men.

10. Give distinguishing characteristics of all the continents.

THE INDUSTRIALIST.

SATURDAY, MAY 26, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

Our space is so occupied with examination questions this week that we have no room for locals. In our next issue a full report will be given of the closing exercises of the term, and we will also attempt to make up for the scarcity of local matter this week. Allow us to gently remark, however, that it is decidedly lonesome here since the students left.

PROSPECTS.

The last fortnight has worked wonderful changes in the 'hopper prospects. On the 12th inst., the future appeared gloomy enough. Only about thirty per cent of the eggs were then hatched, and the young locusts were already thick enough to cause the stoutest heart to quail. Now the indications are very different. The eggs have been hatching steadily until they have very nearly all hatched, and yet the 'hoppers are at present not so numerous as on the 12th. These facts plainly show that during the past two weeks there has been a "disappearance" of the young locusts, operating stronger than before.

There are many causes which tend to bring about this result, chief among which are: First, the locusts move out in different directions from their hatching ground, and thus appear less numerous on the same ground than when first hatched; second, the work of devastation performed by the birds, which is by no means small or inconsiderable; third, the heavy and continued rains have done much toward keeping in check and killing the locusts. Although very few, if any, were actually drowned, the continued wet and cool weather is an unnatural and unfavorable condition to their growth, and promotes disease. Their diseased condition is shown by their dark color, some being perfectly black. In their normal, healthy condition they are of a much lighter color, and do not congregate in compact bunches, at times when they should be feeding, as they now do. On the College farm they have commenced dying. This is the first case of a veritable death in any quantity that I have yet seen. In the spots where they have huddled together for some time, the dead locusts may be seen by the handful. All this is very encouraging. The rye is about out of danger, and has been but very slightly injured. Even if the conditions remain favorable for the locusts, we shall escape with much less injury than could have been expected from the indications of two or three weeks ago.

A. N. GODFREY.

[Concluded from first page.]

can transfer it as easily as any other property.

We sometimes grumble because our best farm laborers so soon leave us. They want farms of their own. I have a man who has worked for me twelve years, and who has now out of his savings bought a nice farm of his own. I lose a good man, but he will work quite as hard for himself as he did for me, and put more thought, care and skill into his labor. It may be a loss to me, but it is a gain to the country. He will be able to earn more money and will have more to spend.

American farmers, as a rule, work harder than any other farmers in the world. We occasionally find a drone in the hive, but on the whole we are a nation of workers, and it makes a great difference whether a man is working for himself or for others. We all know what a difference it makes in the amount of work done whether a man is working by the day or by the piece. Last autumn I had men digging potatoes by the day, I paid them \$1.25 per day. Digging, picking up and pitting cost me over 6 cents a bushel. I then told two of the men I would give them 5 cents a bushel to do the work. They took the job, and these two men dug and pitted 100 bushels every day and then went home; they sometimes got through by 4 o'clock in the afternoon. I got the work done cheaper and the men earned double the money. Now, just think what this means; these men were earning \$1.25 per day. If we assume that it cost them \$1.00 per day for family expenses, they made 25 cents a day. Now with a little more energy, care and skill they earned \$2.50 per day and, instead of making 25 cents over and above expenses, they made \$1.50 or six times as much. In other words, they really made as much money in one day as they were previously making in a week.

I mention this merely to illustrate my idea in regard to the great advantage it is to us as a nation to have such a large proportion of those engaged in agricultural pursuits directly interested in the results of their labors. They are the owners and occupiers and workers of the land. Self-interest calls out all their energy and skill. They make every stroke tell. A nation of such farmers ought to be a rich nation.

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the INDUSTRIALIST by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

Record, Beloit, Kansas. A real-estate paper. 25 cents per year. Tells all about north-western Kansas. Kelly & Bertram, Proprietors.

News, Girard, Crawford county. A Democratic weekly paper published at the county seat of Crawford county, \$1.50 per year. Tipton & Lamoreaux, Editors.

New Century. The temperance paper of Kansas. Published at Fort Scott. Weekly, at one dollar a year. Rev. Jno. Paulson and Jno. B. Campbell, G. W. C. T., Editors. Sargent & Co., Publishers. 47-3m

Independent, Minneapolis, Kansas. Established 1871. The oldest, largest and cheapest paper in the beautiful Solomon Valley. Price \$1.50 a year. Politics, independent but not neutral. W. Goddard, Publisher. 43-3m

Home Record, Leavenworth, Kansas. Established in 1872. Is the organ of the Home of the Friendless, an Institution founded and controlled by the women of the State of Kansas. Circulation, 3,200. No better medium for advertising in this section. Mrs. C. H. Cushing, Editor. 44-3m

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Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

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Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

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Printing!—Daily instruction and drill in the work of a First-Class Printer. The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that taste necessarily exercised by every good Job Printer. The Printing Department is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer. Besides regular class instruction in printing, the weekly publication of the INDUSTRIALIST by the Department furnishes advanced students the requisite drill in newspaper work.

Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the KANSAS FARMER very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks"*. I read your FARMER with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the KANSAS FARMER as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas. 38-3m

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JUNE 2, 1877.

No. 7.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

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Prospects of American Agriculture.

[Extract from an address delivered by Joseph Harris, before the National Agricultural Congress, at Philadelphia, September 12th, 1876.]

The American agriculture of the future will not be English agriculture or European or Chinese agriculture, it will be American agriculture. We shall think for ourselves. One of the oldest and most successful farmers in the State of New York is a Scotchman. But he does not use Scotch plows or adopt the Scotch system of rotation. He uses his Scotch knowledge and experience. But his farming is essentially American. We have many good English farmers among us, but we have no English farming.

We have to think for ourselves. We have to study principles and apply them. Liebig has more readers here than in Germany.

The results of Lawes & Gilbert's experiments at Rothamstead are more carefully studied in this country than in England. And there is reason for this. The English farmer can apply Lawe's superphosphate to his turnip crop without studying Lawes & Gilbert's account of their thirty years' experiments. But here, if we would get any benefit from these wonderful investigations, we must study them and master the principles of agricultural science.

This we are to some extent doing. The large circulation of our numerous agricultural papers proves that American farmers are great readers as well as great workers. They do not spend their evenings at the village tavern. Their houses may be isolated, but they are the homes of much that is noble and true. We need have no fears in regard to the rising generation of American farmers.

"But are not your sons leaving the farm?" Certainly, and do not English farmers' sons leave the farm? The sons and daughters of Queen Victoria cannot all be kings and queens, and the sons and daughters of farmers cannot all be farmers and farmers' wives. I do not object to young men leaving the farm for the cities, nor to successful business men turning farmers. We need more of the latter class in the country.

But what of the active, enterprising, well-educated young man who sticks to the farm, or who adopts agriculture as the business of his life; what are his prospects? The farmer's son who leaves the farm and turns carpenter, brick-layer or mason may become a builder and contractor and the owner of a dozen blocks, the quarterly rent from any one of which would buy his father's or his brother's farm.

Another farmer's son turns blacksmith,

and having learned to make nails and horseshoes by hand thinks he can make them by machinery, and becomes a millionaire. Another is a shoemaker but does not stick solely to his last. He becomes, after a few years, the president of one of the largest boot and shoe manufacturing companies in the world. Another studies law and becomes an O'Connor or an Evarts.

But I need not go through the list. We all know, and the young men on the farm know, that there are great prizes to be won in the learned professions and in trade, commerce and manufactures. And they will try for them and work for them, and I do not object to it, and if I did it would make no sort of difference. A business in which there are no prizes will have little attraction for a young man full of hope and energy.

Are there any prizes to be won in the field of agriculture, and if so, how shall we go to work in order to get them?

Farming is said to be slow business, but sure. The man who cannot work and wait will not succeed. But the agriculture of today or of the future is very different from the agriculture of the past.

The improvement in agricultural implements and machines is something wonderful. We can hardly realize the advantages which the men of science, inventors and manufacturers have bestowed on agriculture. Many of the operations of agriculture are dependent on the weather. A large factory making shingles goes on, no matter what the weather may be, but a single shower will stop a whole field of hay-makers.

Twenty-five or thirty years ago a farmer with a hundred acres of hay to cut and a hundred acres of grain had to hire extra men for a month or six weeks, paying extra wages and converting his home into a large boarding house. And he could not cut all his grass and grain just at the right time. But now how is it?

We start a couple of mowing machines in the afternoon, ted the grass the next morning; rake it into windrows; ted it again once or twice, if need be, in the windrows; put it into good cocks and it is safe. We can draw it the next day, or as soon as we can get at it. In my own case this year, though the weather was unusually catching, we were all through haying and harvesting by the last week in July, the grain all thrashed and safe in the barn ready for market.

We have a bad climate for a poor farmer who gets behindhand with his work. But we have as good a climate as any to be found in the world if we know how to take advantage of it.

I thrash my grain in the field by steam. I find that we can get in a field of grain much more expeditiously than if we put it in a stack or barn, simply because the man on the wagon can throw the grain to the machine easier than he can throw it up on a stack or bay. And when we are through we are through; the straw stack built, the grain in the barn, and men and horses

ready to fight the weeds during our splendid August and September weather, when even quack grass is not difficult to kill.

This is what machinery has done for us. And it has done much more, but it is not necessary for us to allude to it. Machinery makes us far less dependent on the weather than formerly, and *better farming* also helps in the same direction. When I first went to Rothamstead, Mr. Lawes asked me about my father's farm, the character of the soil, the rotation and yield per acre. "It is rather light land," I said, "but yields good crops, if the season is not too dry."

"I suspect," said Mr. Lawes, "that your father is not a very good farmer. There is nothing which a good farmer dreads so much as a wet season."

This was a new idea to me. I have an English foreman, and our climate is a sore trouble to him. From May to November he is always wanting rain. "The mangles are growing surprisingly," he said, some weeks since, "but another shower of rain would help them." "Perhaps so," I replied, "but, as we cannot get rain when we want it, let us keep the cultivators going and kill the weeds."

For my part, I like our climate. But it makes no sort of difference whether we like it or not, we cannot change it. What we need to do is to study the climate and adapt our crops and our methods of cultivation and manuring to it. One thing may be safely said, that at least three-fourths of our seasons are very bad seasons for bad farmers, but good seasons for good farmers.

As I have said before, the agricultural outlook in America is an inviting and prosperous one. There is plenty of work to be done. We own our own farms. We are surrounded by an active, energetic and intelligent business, commercial, and manufacturing people. Our own prosperity will be in proportion to the energy, skill and intelligence we put into our work. We shall not confine ourselves to raising wheat and corn, pork and beef. Many will do this, but others will raise products which require more capital and skill, and afford larger profits.

Our first object must be to make our farms cleaner and richer. Draining when necessary, and thorough cultivation, especially on the heavier soils, are the first steps. The real source of fertilizing matter is the soil. Draining and cultivation render a portion of the plant-food, which lies dormant in the soil, available. Mr. Lawes has raised fifteen bushels of wheat *every year*, for over thirty years, without manure, the grain and straw being all removed. In other words, on his heavy lands, cultivation renders enough plant-food available every year for fifteen bushels of wheat and straw. This is the normal yield of his soil. On lighter and poorer soils, the normal, annual supply of plant-food would not be so much, and on richer alluvial soils it is often much greater. But whatever the exact amount, it is evident that this annual supply is the real manurial income of the farm. Our object must be to use this annual income to the best advantage.

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, JUNE 2, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

Course of Study.

Hereafter, students will graduate from the Agricultural College on a four years' course, beginning at a point which any one can easily reach in the average district school of Kansas. There are about five thousand public schools in the State, of which less than two hundred are "high schools," and these are invariably situated in the cities or larger towns. To require a preliminary advancement in studies which are only taught in these high schools is to debar from the privileges of the College those boys and girls who, living in the country, have only the facilities afforded by the district schools. This Institution is designed for the education of the masses in those vocations which ninety-seven out of every hundred Kansans follow; and both common sense and justice demand that its doors shall be as freely opened to the country as to the city student. Hence, the terms of admission, as heretofore, will be an ability to read, write, perform the ordinary operations of practical arithmetic, and to maintain a good standing in the classes of the first year. The main point is not how much the student knows when he enters the College, but how much he learns while he is in it. If he is able, by diligent work, to master the lessons assigned, he can remain; but if not, he will be dropped.

As will be seen by an examination of the following course, it includes all the sciences which have a direct relation to agriculture, and these are most thoroughly and practically taught. A knowledge of each one of them has a cash value for the working farmer, and will both lessen his labor and increase his profits.

It costs a student from \$100 to \$150 a year to attend the College, and the time which he could put on the farm or in other pursuits is ordinarily worth as much more. So that justice to him and to the noble design of the Institution requires that the course should be made as short as can be done without interfering with the real value of the knowledge gained. Accordingly, it contains no Latin or Greek rubbish, no useless "abstract" mathematics, and no fancy "ologies" or "osophies."

The present course differs from that pursued of late in dropping the studies of the fifth and sixth years. A moment's thought will show any one: First, that while they are of value, yet they are not directly valuable to the industrialist; and, second, that in

every case, except that of the modern languages, any young man or woman can master the text-books just as well without a teacher as with one. It is as easy to read history, for example, as to read an editorial, and the student can do so at his home and at far less expense than at college. There is no greater absurdity than the owlish supposition that a student is never to learn anything after graduating; and, therefore, that a college course must include all the possible curiosities of knowledge that have been dubbed "sciences." So far as Physiology, Botany, Physics, Chemistry, Entomology, Geology, Mineralogy, Meteorology, English, and Mathematics, have knowledge that is practically useful to the farmer or mechanic, it is included and taught in the following course. In addition, special facilities will be furnished to post graduates for pursuing specialties in Stock Breeding, Agriculture, Horticulture, Chemistry, Physics, etc.

FARMER'S COURSE.

FIRST YEAR.

Full Term.—1. Drill in English; 2. Drill in Arithmetic; 3. Industrial Drawing.

Spring Term.—4. Drill in English; 5. Drill Arithmetic, Book-keeping; 6. Industrial Drawing.

SECOND YEAR.

Full Term.—1. Physiology; 2. English Structure; 3. Advanced Arithmetic, Book-keeping.

Spring Term.—4. Practical Agriculture (elementary); 5. Physics; 6. Industrial Drawing.

THIRD YEAR.

Full Term.—1. Botany and Entomology; 2. Inorganic Chemistry; 3. Practical Geometry.

Spring Term.—4. Practical Horticulture; 5. Organic and Analytical Chemistry; 6. Practical Surveying.

FOURTH YEAR.

Full Term.—1. Practical Agriculture (advanced); 2. Agricultural Chemistry, Meteorology; 3. Political Economy, Practical Law.

Spring Term.—4. Landscape Gardening, Zoology; 5. Geology, Mineralogy; 6. Practical Engineering.

The Woman's Course furnishes just such an education as every woman ought to have, whether worth a million of dollars or supporting her husband.

WOMAN'S COURSE.

FIRST YEAR.

Full Term.—1. Drill in English; 2. Drill in Arithmetic; 3. Industrial Drawing.

Spring Term.—4. Drill in English; 5. Drill Arithmetic, Book-keeping; 6. Industrial Drawing.

SECOND YEAR.

Full Term.—1. Physiology; 2. English Structure; 3. Advanced Arithmetic, Book-keeping.

Spring Term.—4. U. S. History; 5. Physics; 6. Industrial Drawing.

THIRD YEAR.

Full Term.—1. Botany and Entomology; 2. Inorganic Chemistry; 3. Industrial Drawing.

Spring Term.—4. Practical Horticulture; 5. Organic and Household Chemistry; 6. Household Economy.

FOURTH YEAR.

Full Term.—1. Farm Economy, Special Hygiene; 2. Meteorology; 3. Political Economy, Practical Law.

Spring Term.—4. Landscape Gardening, Zoology; 5. Geology, Mineralogy; 6. Physical Geography.

OUR reporter evidently was a little late at the Commencement exercises, and obtained his report under difficulties, but it is about as good as any we have yet seen. The students acquitted themselves well, and will, no doubt, highly value their hard earned diplomas. Speaking of diplomas, we would like to inquire of the Management, would it not be right and just to give diplomas in the industrial courses as well as

the scientific? If a student takes printing, carpentry, or any of the other trades, and studies it practically as well as scientifically, he should be entitled to a diploma stating that he is master of his trade practically as well as theoretically. This would greatly aid and advance him in his profession, and would be an inducement to remain at the College and graduate, instead of only one or two terms as is too often the case now. It would stop this cry against the College for turning out half printers, half carpenters etc., who work for half wages—damaging the trades, compelling the best workmen to seek other employment or work at starvation prices—and injure the reputation of the College. This last, especially, is a very great item. Incompetent mechanics in applying for employment frequently use the name of the Agricultural College as a reference, when probably they have not attended more than one term. When their incompetency is discovered, the story is circulated to the injury of that institution. But if diplomas were issued to those who mastered their trades, every workman turned out would be an advertisement that would greatly increase the attendance and usefulness of the College. There may be impediments and objections to this system which we have overlooked that would render it an impossibility to adopt this course, but it looks feasible and could easily be tried. It would certainly not be a step backward, and if successful would greatly increase the importance of the College as an industrial school.—*Manhattan Enterprise*.

PROF. RILEY, before the St. Louis Academy of Science, on Monday night gave his opinion that the grasshoppers in Kansas would do but little damage this year. There had been extensive hatching in March, but by persistent fighting and natural causes they had largely disappeared. Birds had been very thick, and in some places their down actually covered the ground, and the soil was pitted by the work of their bills. In general those this year had not the healthy constitutions of those of 1875; they were dying out. He predicted good crops everywhere south of Minnesota.

Neat Farmers.

The neat farmer keeps everything around him neat and clean, and gives his fields clear culture. Stumps, bushes and rocks are taken out and removed where they will do the most good; his door yards are kept clean and smooth; fences always ready to open and shut; all old logs and bushes and other rubbish taken from the sides of the road in front of his buildings; his barn and out-buildings are kept in repair and painted or whitewashed; doors and windows whole, and always provided with hinges and fasteners for instant use; his tools sharp and always in their places when wanted; a place for everything and everything in its place. His farm wagons, plows, harrows and all other tools are carefully housed when not in use; his house is a model of neatness outside and in; he lets nothing go to waste that will make manure; his stock is well taken care of and fed, and always kept in a healthy condition; barn and stable floors kept clean and tidy; he has more or less nice stock to sell every year, and generally has a little scrip in his pocket for a rainy day to pay his bills; always rides with a good team, and is generally out of debt; he owns more or less bank stock, and of course is happy and contented, and enjoys the blessings of life.—*Dirigo Rural*.

THE INDUSTRIALIST.

SATURDAY, JUNE 2, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending May 31st, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	25	73°	54°	64° .50	28.88
Saturday.....	26	73	54	59 .25	28.85
Sunday.....	27	78	56	71 .75	28.83
Monday.....	28	80	62	71	28.75
Tuesday.....	29	84	67	75 .50	88.54
Wednesday.....	30	74	59	70 .50	28.35
Thursday.....	31	77	51	68 .75	28.32

Average temperature for the week, 68° .75
Range of temperature for the week, 33°.
Rainfall for the week, 1.10.

Copies of Prof. Kedzie's book on "Agricultural Geology" are for sale at Fox's book store in Manhattan.

A severe hail and rain storm, which will surely damage the small grain more or less, visited this section of country this forenoon.

The Board of Regents met Thursday and adjourned yesterday. All the members were present, and an important session was held.

Clay Crouse has abandoned the study of law and is now travelling as news agent on a railroad in south-eastern Kansas. Quite a transition.

None of the Faculty have gone away except the President, who with his family will spend a few weeks in Junction City and then go to the mountains.

We hereby give notice that we are through house-cleaning at this office, and are in readiness to receive callers. Special attention given to lady visitors.

We are requested to tender the thanks of the Alpha Beta Literary Society to Hon. Alfred Gray and Hon. J. J. Ingalls for the public documents contributed to their library.

Any student sending us twenty cents will receive the INDUSTRIALIST during vacation. It will come to you every week freighted with College news, and will be much cheaper and better than letter-writing.

Ed Waring's post-office address is Truckee, Nevada Co., California. He has lately been moved from Cisco to the above-named place. He, too, like all the rest who are sensible, must have the INDUSTRIALIST.

President Anderson is having a roof placed over the porch attached to his house. Besides being a very comfortable retreat in warm weather, this addition to the presidential mansion will greatly improve its appearance.

Several of the students have written to us since the term closed. We are very glad to hear from them, and hope that they will see fit to furnish us with some items for the Students' Column. We would like to have it filled every week during vacation.

A stalk of rye taken from the field on the College farm last Tuesday measured five feet nine and one-half inches, and the rye in that field has grown a half a foot since then. We consider this a pretty fair measurement at this stage of the growing season.

Irving Todd, accompanied by his mother and aunt, started East last Wednesday morning. These parties will spend the summer in the eastern cities, attending in the meantime the Commencement exercises at West Point. We wish them a pleasant journey and a safe return.

Quite a number of strangers have visited the College this week. Among them was a gentleman by the name of Fleming, from Altoona, Penn., who has been making quite an extended tour through the Western States. He is well pleased with Kansas, and intends locating somewhere within its borders.

We have heard from the irrepressible "Peter Paragraph," better known as S. M. Ward, of Ellenville, N. Y. He is inquiring after the INDUSTRIALIST, which he says does not reach him regularly. Notwithstanding the fact that his beloved "Dulcinea" lives in this far West, he says, "Give me the Empire State."

A letter from D. A. Beamer informs us of the fact that he has engaged to travel as soliciting agent for a wholesale glass company in Cincinnati, Ohio. Well, David, we hope you will succeed. You certainly enjoy a combination of those qualities so necessary to success in that calling,—wit, "gab" and perseverance.

The students will be surprised, as was every one else, to hear that Mrs. Werden was married to Mr. I. K. Perry last Wednesday morning. The ceremony was conducted by Revs. R. Wake and R. D. Parker, at the Methodist parsonage, and the newly married couple took the morning train for Carthage, Mo. Mr. Perry will be remembered by the students as the gentleman who was associated with Mr. Whitford in the hardware business in Manhattan a year or more since.

The *Nationalist* published two good reports of the Commencement exercises. As they are too long for us to reprint entire, we take the liberty of consolidating and condensing the two as follows:

The Eighth Annual Commencement Exercises of the Kansas State Agricultural College, held on Tuesday evening (May 22d) at the Presbyterian Church, were enjoyed by a crowded house. The singing by the College students, under the direction of Prof. Platt, with George Platt as organist, was decidedly enjoyable, the choruses being all well selected and excellently rendered. The graduating class of eight gentlemen and one young lady were as fine students as have ever gone from the College. The orations were all good and were well delivered.

The salutatory, by Wm. Ulrich, on the subject of "Law," was well written and well delivered, but no better than we expected, as we always had a good opinion of this young man.

"Elements of Success," by Louis E. Humphrey, was next listened to with marked attention. He scorned the idea of burning the midnight oil, feeding the mind at the expense of the body. A sound body, constitutional strength, independence and strong will are as greatly to be desired as knowledge and broad culture.

"Agriculture a Progressive Art" was the theme discussed by F. O. Hoyt. The speaker had evidently subsoiled his mind, turning up his best thoughts. We, too, believe in thorough cultivation, where the soil isn't too barren, and hope he may continue to dig deep into the "progressive" in all things, nor, because school days are gone, allow weeds to grow in the garden of his mind.

John S. Griffing, another graduate from whom we expected much, chose for his subject, "The Winning Worker." Success depends in a great measure upon one's self, and it therefore behooves us to learn well our part in life. In this age, every one must be something or nothing. Sidney Smith's advice was well adapted for us: "Be what nature intended you for." Be master of one thing. Broad culture may be desirable, but the successful workers are men of one aim and purpose; not men of one idea, but men who "stick to their business." This age is far better for successful labor than any that has past. Two thousand years ago, only the victorious general was the successful man; eight hundred years ago, only the chivalrous. The greatest success is achieved only by aiming high—mentally, morally and physically.

Marion F. Leasure thought man not the creature of circumstances, but "(Man) the Arbiter of His own Destiny." The theme was handled in a masterly manner, some of the illustrations being exceedingly apropos. His delivery was also very good, compelling and holding the attention of the audience throughout.

"Cut your Coat according to your Cloth" was a fine oration delivered by James F. LaTourrette. Too many were governed by circumstances. Parents ruined the life-prospects of many of their children by anxiety for "my son to occupy a prominent position," and many a good farmer has been spoiled to make a poor minister, or a good brick-layer for a poor retail merchant. Of all studies the study of self is the most important.

Mr. W. C. Howard's oration, entitled "National Education," contained many interesting statistics, and gave evidence of much research.

Miss Ella Child followed with pleasant and well chosen words about "The Line." After listening to them, those who like ourselves have known the speaker during her school life, and watched the manifest improvement from Commencement to Commencement which have like mile-stones marked her intellectual advancement, and have told so plainly the progress made toward the goal so much desired by the diligent student, cannot but wish with us that her "lines may ever fall in pleasant places," and by whatever lines she may scribe her after life, that all that is rugged, angular and harsh may be so hidden by the beautiful and refined as to only serve by contrast to make future attainments more attainable and loftier aspirations more real.

George H. Failyer delivered the closing oration, entitled "Immortality of Motion," and, considering the marked attention paid by the very much crowded audience, we pronounce this speech to be one of the best of the evening. The closing tribute paid to the teachers, the words of cheer to the scholars generally, and the hopeful thoughts and greetings especially directed to his fellow classmates, made the closing particularly interesting.

President Anderson, in a few well chosen remarks, announced the Degrees, and Gov. Salter, in behalf of the Board of Regents, presented the diplomas. The brief speech of Gov. Salter was pointed, wise and practical.

Students' Column.

GRANTVILLE, Kas., May 28th, 1877.

Editor *Industrialist*:—Upon leaving Manhattan last Thursday we expected to reach home in the course of a few weeks, and therefore were somewhat surprised to get home Thursday, 2:30 P. M. We found no wash out so extensive as that near Manhattan, but the prospects for one near Wamego were very good. Should the river again rise, much more damage would be done. We noticed many fields completely inundated, necessitating the replanting of all crops. It is difficult to estimate the damage that has been done by the recent flood. It is not the loss of the seed sown, nor of the time lost in putting it in, that will affect the farmers; but it is the condition in which their land is left that most affects them. Most of the best soil has been carried away by these "dashing rains with heavy gales, deluges without wind, and solo rains." It can be safely said that here in this vicinity more harm will arise from this flood than from the devastation of the 'hoppers in the spring of 1875. By the way, we wonder if President Anderson has lost all faith both in the modesty of the 'hoppers and the theory that water will kill them. I have seen no 'hoppers here. Many eggs were deposited, but for some reason few have hatched.

The fruit prospect in our valley is a glorious one. Fall grains left uneaten by the grasshoppers have an excellent appearance. The wheat crop will not be an extensive one in this county. The corn that was planted late is now in better condition than that planted the last of April. Spring barley never appeared better than at present. We shall have a very large crop this year, if not too wet again. To-morrow we have to "yank" a corn-planter. Oh, my! Wish we could go to school fifty weeks out of the year. This terrible malady, spring fever, has attacked us. A vigorous application of the two "soles" that beat as one will relieve us. In the meantime we shall retire to the pleasant shades afforded by a weedy corn field. Probably in the far future we may apply practically the knowledge acquired of "Practical Agriculture;" when we do you shall hear of our success. If the grasshoppers continue "to go on living, growing, gnawing, kicking and snorting around," we shall notify you of such a calamity.

BEECHER.

[Concluded from first page.]

vantage. If we sell all our crops we live up to our income, and the farm gets no richer. And if we lose any by leaching or evaporation, the soil becomes to that extent poorer. If we retain half the crop at home on the farm, and use it judiciously, we add so much to our manurial capital.

Many of our farmers sow land to wheat and seed it down to clover. They then plow under the clover and sow wheat again. In this way they raise a crop of wheat every other year, and *theoretically*, if the normal yield, or the annual supply of plant-food, is equal to fifteen bushels of wheat per acre, the yield in such a case, every other year should be thirty bushels per acre. You get no more wheat in one case than in the other, and the only advantage is the saving in seed and in the labor of preparing for and harvesting the crop. I admit that these are very great advantages. Summer-fallowing on some soils would have equal advantages. But I have no time to dwell on this part of the subject. I have said that *theoretically*, if the normal yield of a soil is fifteen bushels per acre, if we plow under a year's growth of clover we ought to get thirty bushels, because we have two years' supply of plant-food in the soil. There is a principle, however, which interferes with this result. The soil is very conservative. It is not easy to get out of it all we put into it. A dressing of farm-yard manure, or a crop of clover plowed under, is not by any means taken up by the growing plants in a single season. In heavy soils, especially, decomposition proceeds very slowly, and it may be several years before all the plant-food supplied by a crop of clover is given up to the plants. Still the fact remains that when we plow under a year's growth of clover we have accumulated in the soil an extra quantity of plant-food equal to the annual supply rendered available by the processes of agriculture and the decomposing and disintegrating action of sun and air, heat and cold. And it is this fact that lies at the basis of all judicious rotation of crops. I cannot but feel that we are on the eve of many important discoveries which will enable us to add greatly to the yield of our crops and the profits of our farming.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JUNE 9, 1877.

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Artichokes and Chufas.

The following article, written by Prof. Shelton, is taken from a late number of the *Kansas Farmer*:

The Brazilian or Jerusalem artichoke (*Helianthus tuberosus*) and the Chufa or Ground Almond (*Cyperus esculentus*) are not the same plant nor do they belong to closely allied species. The artichoke belongs to the order *Compositae* so commonly represented in this State by the wild sunflower, while the Chufa is a member of the little valued Rush family, represented by the various sedges found growing on nearly all damp, marshy land. Beyond the tuberous roots possessed by each, and their semi-civilized, weedy character, these plants have almost no characteristics in common. Why the artichoke should receive the prefix Brazilian, it is difficult to say, as there is absolutely no evidence supporting the popular notion that the artichoke originated in Brazil. Dr. Gray, than whom there is no better authority, gives strong reasons for his belief that the artichoke originated in the valley of the Mississippi, from the wild sunflower so common there. But whatever may have been its origin there can be little doubt that when kept within proper limits the artichoke is a valuable plant, especially for feeding hogs. Your correspondents who are thinking of giving this plant a trial will do well to give it a part of the farm that can be given over permanently to the artichoke, for when once in possession of the soil it is not easily eradicated.

The Chufa, or Ground Almond, Dr. Thurber tells us, was introduced from Spain some twenty years ago. Although it has been tried in nearly every section of the Union, the fact that opinions are pretty evenly divided as to its value does not recommend it very highly. It should be remembered by those intending to cultivate this plant that it is closely allied and in habit almost identical with the "nutsgrass" and "coco-grass" of the Southern States, one of the most pestiferous weeds known to the farm. In many cases in Louisiana and South Carolina it has spread with such rapidity, as to compel the abandonment of whole plantations. The Chufa if valuable at all is only valuable for hog feed, and in this respect is greatly inferior to the artichoke.

Your correspondents will, I doubt not, be able to obtain tubers of these plants from any considerable seed house. I open the first seed catalogue at hand, that of the Plant Seed Co., of St. Louis, Mo., and find the tubers of both plants offered at moderate prices.

In regard to Mr. Horn's inquiry as to the

cultivation of these plants upon the College farm, I would say that I have made plans the present spring to plant a considerable plat with artichokes, but for the past month we have been engaged in a grasshopper war of the largest dimensions, and it has seemed only prudent on our part not to extend our lines beyond their present limits.

Stick to Your Business.

There is nothing which should be more frequently impressed upon the minds of young men than the importance of steadily pursuing some one business. The frequent changing from one employment to another, is one of the most common errors committed, and it may be traced to more than half the failures of men in business, and much of the discontent and disappointment which renders life uncomfortable. It is a very common thing for a man to be dissatisfied with his business, and to desire to change it for some other, which it seems to him will prove a more lucrative employment; but in nine cases out of ten it is a mistake. Look around you, and you will find among your acquaintances abundant verification of our assertion.

There is an honest farmer who has toiled a few years, got his farm paid for, but does not grow rich rapidly, as much for lack of contentment mingled with industry as anything, though he is not aware of it. He hears the wonderful stories of California, and how fortunes may be made for the trouble of picking them up, mortgages his farm to raise the money, goes away to the land of gold, and after many months of hard toil comes home to commence again at the bottom of the hill for a more weary and less successful climbing up again. Mark the men in every community who are notorious for ability, and equally notorious for never getting ahead, and you will usually find them to be those who never stick to one business long, but are always forsaking their occupation just when it begins to be profitable.—*Scientific American*.

Climate of Kansas.

From the monthly report of the Kansas State Board of Agriculture we take the following:

There are seldom seasons in Kansas when the thermometer does not indicate the extremes of heat and cold that are indicated in the same latitude east of Kansas on the Atlantic. This includes a belt of country through the central portion of the United States between thirty-six degrees and thirty-six minutes and forty degrees north latitude, as follows: Central Missouri, south half of Illinois, Indiana and Ohio, north half of Kentucky, all of West Virginia and nearly all of old Virginia, all of the District of Columbia and the States of Maryland and Delaware and the south half of New Jersey. But altitude, proximity to mountainous regions, and a comparative absence of leaf surface, temper and modify atmospheric extremes so that persons and domestic animals do not suffer from heat

and cold as in the Eastern States. Not from heat, because there is almost always an exhilarating "Kansas zephyr," an acknowledged antidote to languid days—or rather a preventive. Then, too, at night there is proverbially a brisk, cool and refreshing breeze springing up from the southwest, which calls for covering at night and guarantees renewed vigor and freshness for the coming day.

KANSAS claims to have had on hand the first of March last, over 36,000,000 bushels of corn, which shows conclusively that the grasshoppers did not consume the entire crop in 1876.

PRESIDENT ANDREW D. WHITE, of Cornell, writes that the more he travels through ancient lands and takes a calm view of our American affairs from outside in the light thus obtained, the more thorough becomes his conviction that our main bulwark against the terrible evils that have swept over other lands must be found in a thorough system of education, complete in all its parts, managed by the people, and not into the hands of any sect or party.—*Paola Spirit*.

ON the occasion of the Emperor of Germany's birthday, it may be recorded as a peculiarly Prussian trait that among the gifts presented to His Majesty there was an engraving by Prince Henry and a book bound by Prince Waldemer, the two younger sons of the Crown Prince. Under the thrifty habits of the dynasty, each of its princes, as is well known, in order to become acquainted with the popular aspect of life, has to learn a craft. His Imperial Highness the Crown Prince is a compositor, and the German Emperor a glazier. It is related of King Frederick William I. that when in his younger years he was inured to husbandry, he had a plough on which were engraved these words "*sic itur ad astra*." His successors have remained true to the motto, as well as to their ancestor's practical method of enforcing it by dint of hard work.

THE *Churchman* is not surprised at all to hear it said that "the system of elective studies, as illustrated at Harvard, is a failure," and that "Harvard is turning out poorer students to-day than fifteen or twenty years ago." It adds:

In the first place, a system of electives combined with one of marks offers an inducement to the freshmen to elect easy studies, rather than make choice of those calculated to give him a symmetrical education. It is a fact, too, that a student who finds himself falling behind in a difficult study will exchange it for an easy elective with no better reason than that he desires to attain a good average of marks. In these two ways, at least, it strikes us that the system of electives in colleges is in danger of abuse. It may be added that the student is often very poorly qualified to make a selection either at his entrance into college, or at any period in his life as an under-graduate.

THE INDUSTRIALIST.

SATURDAY, JUNE 9, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

Teachers' Association.

The Kansas State Teachers' Association meets at Emporia, June 26, 27 and 28, 1877. The ability and energies of the Association will be largely devoted to the subject of County Normal Institutes. Papers will be read and discussions will be held on the best programmes, course of instruction, etc., for County Normal Institutes. The usual reduction of fare on the railroads and in the hotels will be secured. Programmes will be issued and distributed in due time.

JOHN WHERREL,

Chairman Executive Committee.

Agricultural Geology.

THE ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Wm. K. Kedzie, M. S., of the Kansas State Agricultural College. Cincinnati, Ohio: Van Antwerp, Bragg & Co.

Notwithstanding Prof. Kedzie's connection with this Institution, and the consequent liability of the supposition that the INDUSTRIALIST may view his new work on Agricultural Geology with partial eyes, we propose to speak of it exactly as we should had it been written by a total stranger instead of by an intimate friend. And we are frank to say, at the outset, that many years of constant intercourse with this gentleman predispose us not only to expect that a treatise from his pen will be scientifically valuable, but, also, that it will be practical and wisely adapted to accomplish the design of its preparation.

There are two objections which exist against the usual text-books of science as manuals for the common schools. The first is that their authors, viewing the subject from a purely scientific stand-point and being filled with the minute details of the given science, are apt to overload these works with a lot of stuff that if of any real use to any body certainly is of none whatever to the pupil of the public school. And the second is that such valuable information as the works do contain is apt to be expressed in "scientific" language, instead of in the English language. As a result the student must either do without the information or learn a language wholly different from that of ordinary life. We have no objection in the world to such a technology as shall enable scientists of all nations and climes to exactly understand each other. That is both necessary and proper. But we do object to the claim that, because they use such jaw-breakers in talking to each other,

therefore the millions of pupils in the schools of the United States must also learn and use them. The claim is neither just nor American. There is not one scientist in a thousand of our population, and the question is simply whether the one man shall speak English or the nine hundred and ninety-nine shall attempt to sputter a jargon that Cicero couldn't understand were he brought to life, and that Plato would suppose to be Choctaw. And, while we are at it, we will throw in as good measure, the further statement that the man who in addressing a popular audience on a scientific subject uses technicalities which the great mass of his hearers do not understand, when he could just as easily use terms which they do understand, simply, and with the least possible effort, makes an ass of himself.

There are three characteristics which distinguish Kedzie's Geology from the ordinary text-book; and it is because of these, and for no other reason, that we regard it so highly. First, while it states all the principles and facts of geology that are necessary for a proper understanding of the subject, it does not present a mass of details that neither illustrate the principles nor strengthen the application made thereof.

Second, so far as can be done, it is written in the English language, and, while technical terms are given for the use of the scientist, yet the English meanings of these terms are mainly used. It is just as easy to say "age of fishes" as it is to say the "Devonian age," or "age of reptiles" instead of "Mesozoic age;" and a good deal easier for a pupil to understand. It is not the nomenclature of a science which is of value to the people, but the facts of the science; and these are so stated that any boy can understand what is meant.

Third, being for Kansas scholars, the bulk of the work concerns itself with the specific geology of Kansas; and, as the utility of geology is most seen in the formation and qualities of soils, by far the larger part of the book is devoted to these subjects. This is an agricultural State; its development, wealth and prosperity must be largely agricultural; and anything which will give the future farmer a better understanding of the soil and its conditions should certainly be taught in the common schools, and should as certainly be phrased in common language. The first thirty pages treat of geology and its principles; the next ten, of the geology of Kansas and the mineral resources of the State; while the rest of the book is devoted to the origin and formation of soils, under the following topics: Conversion of rocks into soils; classification of soils; the farm soils of Kansas; relation of soils to crops; exhaustion of soils.

We welcome the work as a new and sensible departure in the text-book business, and trust that it will be only the first of

many similar efforts to popularize science and especially to present those facts which are of use to the industrialist. It is clearly written, carefully arranged, and well gotten up typographically.

Educated Farmers.

A correspondent who has but little faith in agricultural colleges, and apparently little knowledge of what a farmer ought to know, inquires of us, "What is there about farming that is necessary for a boy to go to school to learn?"

In answer to this, we do not propose to go into the detail of the boundless field of knowledge which it is important the true farmer should study and master. But as stock breeding and rearing are a necessary part of a farmer's business, he should understand the laws of life, both vegetable and animal. The intelligent feeder should have a scientific knowledge of the structure and functions of the animals he grows. Reasoning from cause to effect, as the animals have no power of transforming one element of food into another, he should know the exact nature of the food he intends for a particular purpose, which can alone be obtained by a scientific knowledge of its elements, and thus know just what is required to build up the frame, the muscles, or produce fat. The farmer should know what kind of food contains the necessary caloric to keep up the animal heat in low temperatures, and what food contains the most starchy elements to produce certain results.

Nor is a knowledge of the structure and wants of the animals all that is necessary. Vegetable life must be understood, and he must know just what kind of food each particular plant requires for its health and development. And thus, if our correspondent will dip deep into the duties and business of a true farmer, he will find that intelligent agriculture should be conducted with science, art and skill. All other branches of industry have limited fields of research. Agriculture is boundless. Farmers have groped in the dark long enough, and the business has been degraded for the reason that the ignorant and unlearned have plodded on, doing things at random, as frequently wrong as right. When our correspondent, as well as the rest of the world, learns that the advanced farmer and the farm are governed by definite scientific principles and rules as fixed as those of mathematics, mechanics or engineering, then, and then only, will the intelligent farmer's son respect the calling of his father. Then will the farmer take his true position in the society of the refined and learned. Then no longer will farming be a game of chance, or the farmer's features proclaim him a drudge.—*Iowa Register*.

We find among our exchanges the following notices of Prof. Kedzie's book on Agricultural Geology:

Thanks to Prof. Kedzie for a copy of his primary geology. We hope to find time to review it next week. So far as we have read it, the design is an excellent one, and the work shows great care in its preparation.—*Junction Union*.

We are pleased to notice the publication of a small work on geology by Prof. Kedzie, of the State Agricultural College. The book is designed for the use of those who are compelled to teach at least the rudiments of the science, and yet are not able to secure thorough University drill.—*Lawrence Collegiate*.

THE INDUSTRIALIST.

SATURDAY, JUNE 9, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending June 7th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	1 77°	50°	66°	28.73	
Saturday.....	2 78	57	66 .25	28.76	.95
Sunday.....	3 74	56	65 .50	28.79	
Monday.....	4 80	54	69 .75	28.66	
Tuesday.....	5 81	58	71 .25	28.61	.70
Wednesday.....	6 76	50	65 .25	28.39	.53
Thursday.....	7 75	57	67 .25	28.48	3.30

Average temperature for the week, 67°.32.
Range of temperature for the week, 31°.
Rainfall for the week, 5.48.

Capt. Todd spent two or three days in Atchison this week, attending the Episcopal Convention in that city.

Prof. Ward is attending a Baptist Convention at Topeka this week, and Mrs. Ward, Mrs. Meeker and Miss Nellie Sawyer have gone to Ottawa.

The fruit prospect in the College orchard is very good. Peaches, plums, pears, cherries, apples, etc., are growing nicely and if nothing happens will yield a fair crop.

The State Horticultural Society held its semi-annual meeting this week at Abilene. Prof. Gale has been in attendance, and reports a very interesting and beneficial session.

The rains have somewhat delayed the work on the new barn, but the walls are up several feet, the lumber for the wood-work is on the ground, and the contractors will now push the work along as rapidly as practicable.

The east end of the roof on the College building is undergoing some changes. The stone-work which projected above the roof is being torn down, and that end of the building is to be finished off to correspond with the other.

Over six inches of water has come down from the clouds during the past week, and, although it is pleasant at time of writing, the earth is thoroughly soaked, the creeks and rivers are booming, and in consequence considerable damage will be done.

A substantial stone sidewalk connecting the College buildings with the walk from town is now being put down. This walk runs down alongside the shade trees north of the road, and besides affording a cool and pleasant place of travel in summer, will be protected in a measure from the winds and storms of winter.

Miss Jennie Kay was quite seriously injured a few days ago. She was riding with her father behind a pair of horses which became unmanageable and ran away, throwing her from the wagon and injuring her body in several places. Dr. Lyman was called to minister to her relief, and we are informed that she will undoubtedly recover.

The Twenty-Third Annual Association of Congregational Ministers and Churches of Kansas has been in session in Manhattan during the past week. Some eighty ministers and delegates are in attendance, and, notwithstanding the unprecedented rains, their meetings have been well attended. The sermons, essays and discussions have

been very interesting and instructive, and Manhattan will be renewed spiritually in consequence of the meeting of this General Association at this place.

In its report of the proceedings of the semi-annual meeting of the State Horticultural Society, held in Abilene last week, the *Chronicle* speaks as follows regarding a very worthy man:

Prof. Gale, President of the Society, followed in the most masterly address we ever heard delivered on the subject of Horticulture. It alone was worth all the trouble and expense of the Society. It was practical and to the point, and cannot fail to accomplish much good in our community and in the State. Prof. Gale is a man of good abilities, a pleasant talker, and fully versed in Horticulture.

The Manhattan Division of the Sons of Temperance are preparing a drama and farce which they intend offering the public in Peak's Hall next Thursday and Friday evenings. The plays are entitled, "Little Brown Jug" and "A Little More Cider," with the following persons as actors: Dr. Lyman, Jay Dutcher, George Wake, John Winne and A. A. Stewart, Misses Aggie Woodman, Rosa Damon, Nellie Pillsbury and Lydia Glossop. These plays are excellent pieces, and we are sorry that the students are away and therefore cannot hear them. Everybody in Manhattan who loves the temperance cause should attend this entertainment, the proceeds of which are to be used in paying for an organ. Admission, 25 cents; children, 15 cents; reserved seats, 35 cents.

The following locals are taken from the last *Nationalist*:

Dexter Houston and bride arrived here Tuesday last.

Miss Cassie Moore returned to Topeka on Wednesday to spend vacation.

We have lived many years in Kansas, but have never known the rivers to remain at a high point for so long a period as they have this season.

Tom Dixon's 160-acre wheat field is doing so well that he has purchased another quarter section, and has contracted to have it broken for \$2.50 an acre.

We understand that Ed F. Waring has decided to study for the ministry. Many of his friends are not surprised, and those who knew best of his religious life say it is what they expected. He is still in California.

Last Thursday afternoon a colored boy about thirteen years old, named Nute Mathews, was drowned in the Blue River. He was catching driftwood with a spear, fastened by a rope to his arm; but one log he could not manage, and before he got the spear out he was drawn into the water. When he came to the surface, he got onto a piece of fence, detached the rope, took off his shoes, and without taking off his clothes attempted to swim to shore, but sank just before reaching the bank. Had he taken his clothes off, he would not have been drowned. He is said to have been a very promising lad.

Last Saturday forenoon a hailstorm visited this section which has never been equalled since the State was first settled. North of the Kansas River the hailstones were not remarkably large, from the size of a walnut down, and but little damage was done except in spots. Uncle Toby Neckelman's field of wheat was destroyed so completely that he has plowed it up and planted it to corn. South of the Kansas, toward Zeandale, an immense number of great junks of ice fell, killing birds, rabbits, etc.; breaking off limbs of trees, smashing the young corn, etc. Hon. T. S. St. John measured one that was twelve inches in circumference, and two and a half hours after the storm he picked up another that measured eight and a half inches around. Several others report having measured hailstones equally large. All the window glass on the north side of Mr. St. John's house was broken out, and he puts his damage at five hundred dollars. In 1857 we picked up hailstones that fell in Manhattan and measured nine inches in circumference.

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Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas.

THE INDUSTRIALIST.

SATURDAY, JUNE 9, 1877.

It is estimated by practical men that one bushel of corn judiciously fed will produce four pounds of butter, twelve pounds of pork, or eight pounds of cheese.

Aversion to Manual Labor.

The practice of educating boys for professions which are already overstocked, or for mercantile business in which statistics show that ninety-five in a hundred fail of success, is fearfully on the increase in this country. Americans are becoming more and more averse to manual labor; and to get a living by one's wits, even at the cost of independence and self-respect, and a fearful wear and tear of conscience, is the ambition of a large proportion of our young men. Fifty years ago a father was not ashamed to put his children to the plow or to a mechanical trade; but now they are "too feeble" for bodily labor.

It seems never to occur to these foolish parents that moderate manual labor in the pure and bracing air of the country is just what these puny lads need, and that to send them to the crowded and unhealthy city is to send them to their graves. Let them follow the plow, swing the sledge or shove the fore-plane, and their pinching cheeks will be expanded, their sunken cheeks plumped out, and their lungs, now "cabineted, cribbed and confined," will have room to play. Their nerves will be invigorated with their muscles; and when they shall have cast off their jackets, instead of being thin, pale, vapid coxcombs, they shall have spread out to the size and configuration of men. A lawyer's office or a counting-room is about the last place to which a sickly youth should be sent. The ruin of health is as sure there as in the mines of England. Even of those men in the city who have constitutions of iron, only five per cent succeed, and they only by "living like hermits, and working like horses;" the rest, after years of toil and anxiety, become bankrupt or retire; and, having meanwhile acquired a thorough disgust and unfitness for manual labor, bitterly bemoan the day when they forsook the peaceful pursuits of the country for the excitement, care and sharp competition of city life.

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As an expression of our appreciation of the kindness shown to the INDUSTRIALIST by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to
J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JUNE 16, 1877.

No. 9.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

The Winning Worker.

[An Oration delivered by John S. Griffing, a member of the graduating class of the Kansas State Agricultural College, Tuesday evening, May 22d, 1877.]

"All the world's a stage," we are the performers. To each human being is vouchsafed the privilege of making his debut in this great drama of life. And, as the success or failure of his performance depends in a great measure upon himself, how necessary that he exert himself and let no opportunity pass by which he can learn to play well the part assigned him! But few enter upon this stage who escape the necessity of choosing a part, some profession or calling; and the most sensible would choose a part without compulsion, for in these fast times every man must be something or nothing, and who will say that a person can be happy and enjoy life without labor of some kind? That man is to be pitied who has nothing to do. Idleness is the mother of more crime and misery than any other cause ever thought of by the profoundest thinker, or dreamed by the wildest theorist. A mind idle and uncultivated will run to waste as surely as a neglected garden will grow up to weeds and briars. The physical part of man needs action, labor, or it will in time become effeminate and powerless. He who can raise but twenty pounds to-day, by practice and a temperate use of his physical organs may by and by astonish the world with his Herculean performances. But man is a free agent; he has it in his control to become a factor of the highest power, or on the other hand to figure conspicuously as a nonentity. In choosing his part, the man will do well to accept the advice of Sidney Smith, "Be what nature intended you for, and you will succeed; be anything else, and you will be ten thousand times worse than nothing."

Important as is the choice of a vocation, the work is not yet accomplished. He has just begun. There are but few actors in life who should attempt the performance of more than one part. Who are the most successful lawyers, doctors, mechanics, farmers? Undoubtedly those who have stuck to one thing; those with one object in view, and who directed their utmost energies to bring it to perfection. The ancients in taking a city did not batter all sides of the wall, but persistently directed the irresistible force of their blows on one spot till the wall gave way and the city was theirs. And so the human mind works to best advantage when directed to a solitary object. Look if you please at the history of the greatest minds the world has ever seen, and you will find that with very few exceptions their life-work was concentrated on one ob-

ject, that all their energies were bent in one direction. They had the courage to be ignorant of many things that they might be master of one. Broad culture is a beautiful thing to contemplate, but who is it that constitutes the running gear, who are the winning workers on this great stage? Simply those with one intense purpose. To these we are indebted for many comforts and blessings we enjoy, and who do the real hard work of the world. We would not have it understood that this division of labor must be carried too far, for by so doing a man dwarfs himself and does not do justice to the faculties given him by his Creator. We often see cases of this one ideaism, where the lawyer becomes a walking law library, the doctor a traveling medicine chest, the merchant whose counting-room is the center of the narrow circle that bounds the sphere of his life. These, like "Die drei Spinnerinnen" in that little fable of the "Gebrüder Grimm," are monstrosities in one direction or faculty, while dwarfed and hideous in others. But we mean "stick to your business." By sticking to his business a person need not shut himself up entirely in his shop or counting-room; but let him first of all take care to cultivate and develop all his powers as far as he can systematically, and then devote his chief labors to the faculty which nature has given him a hint should be cultivated. And if he has sense, industry and good principles combined with good health, he is certain to be a winning worker.

But the question may be asked, and quite opportunely, too, Who is the winning worker? who is the successful man in life? If this question had been asked two thousand years ago, it would have been answered that it was he who achieved the most victories in war and brought the most people under his subjection; and Alexander the Great would have been cited as a high type of successful manhood. Eight hundred years ago it was he who was the most chivalrous, and the man who would go through the most toil and privation for the furtherance of some good object was looked up to and honored almost as a god; Godfrey, of Bouillon, leading the first army of the Crusades, was an example in that chivalrous age. But now the times are changing, and to-day that man is generally considered successful who aims high, and by mental, moral or physical effort reaches all he aims at. In this definition of success very much depends of course on what the "aims high" means. Commodore Vanderbilt died a few months ago, the wealthiest man in America. From the time he commenced business with his little boat until the time of his death, his sole object, his highest aim was wealth to the utter neglect of the other faculties with which he had been endowed. Financially, his life was a success; but as a man, it was a stupendous failure.

If a man attains wealth, power or fame without other attributes, he could not be pointed to as an example of true success. If in obtaining these he sacrifices health, peace and conscience, of what avail is the

whole world to him? Let him rather first be true to himself, to his fellow-man, and to God; and let success in its ordinary meaning be considered as a means, not the end of his existence.

Cut your Coat according to your Cloth.

[An Oration delivered by James F. La Tourrette, a member of the graduating class of the Kansas State Agricultural College, Tuesday evening, May 22d, 1877.]

The hardest study, the one that is least understood, and the one that is most important to mankind, is the study of human nature. The book consists of many pages, which we hurry over unheeding the rich lessons they are capable of affording. During our youth, our characters are moulded according to our different dispositions and inclinations. They vary from one extreme to the other, no two being alike; yet, as we approach manhood, these questions come alike to all, and must be decided by each for himself: What course am I to pursue? What shall I do? Shall I become a farmer? Shall I learn some good trade, or shall I try to excel in one of the professions? The young man who has finished his college course or his schooling, inexperienced in thought and action, answers blindly, making not unfrequently a wrong choice, spoiling the rest of his life. Mistakes of this kind frequently occur, and as a result we often see men that are middling ministers, who would have made masterly mechanics; wretched retail merchants, who would have made excellent farmers; pettifogging, parchment-minded lawyers, who might have done the State some service as lightning-rod agents, or perchance as cobblers. This mistaking one's calling is so common that a queer old philosopher once stated a theory of practical philosophy as follows: "God has made in this world two kinds of holes—round holes and three-cornered holes, and also two kinds of people—round people and three-cornered people. But original sin and other disturbing causes have set all things awry; and now almost all the round people are in the three-cornered holes, and the three-cornered people are in the round holes. Hence the uneasiness and unhappiness of society."

What shall I do? Some people answer this the most important question in life with no difficulty. They appear naturally fitted for and inclined towards their respective pursuits. They drive ahead, asking no questions, striking high, with no thought of turning back, never resting until the goal is attained. They push forward as naturally as the young plant struggles from its shady nook to catch its share of the warm, soul-inspiring rays that are poured upon it from day to day; under the influence of which it shoots upward, and in the course of time becomes a magnificent, towering tree. These men who thus struggle toward the light of truth and reason are the thinkers, workers, and by divine right the leaders of the race. But the great mass of people are

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, JUNE 16, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

WITH this issue we commence the publication of the Orations of the last graduating class. For their intrinsic merit, and as evidence of the work being done at the State Agricultural College, we bespeak for their productions the earnest attention of the readers of the INDUSTRIALIST.

What Ails the Pigs?

WATERVILLE, Kas., June 9th, 1877.

PROF. SHELTON,

Dear Sir:—I am breeding Chester White hogs. I have five old sows and have had sixty-three pigs, but now have only five and two of these are diseased. The first symptoms are a wheezy cough lasting about four hours, then costiveness and high fever are noticeable, with highly colored urine, short, panting breath, which continues and perhaps increases until death which occurs in about one week. Some of them have a swelling or dead spot on some part of the body.

You will laugh and perhaps wonder why they have survived so long the treatment I have given them. It has been arsenic, kerosene oil, turpentine, castor oil, flax seed, gruel, copperas, sulphur, etc.

J. D. FARWELL.

These symptoms correspond pretty closely with those of the old-fashioned disease known among farmers as the "thumps," and more accurately the pneumonia. The terrible epidemic called, for want of a better name, the cholera, which devastated the herds of this vicinity last fall, affected young pigs almost precisely as detailed by our correspondent. There are many other causes sufficient to account for the appearance of this disease; for example, exposure to storms, filthy quarters, and insufficient or innutritious food. In-and-in breeding with animals weak in the vital organs results in offspring peculiarly liable to these attacks. But whatever may have been the cause of the disease in this case, medicine will be of little avail. Where young pigs are from any cause quite under the influence of disease, there is little chance of saving them, and dosing after the shot-gun fashion is worse than useless.

In the above case we should advise the separation of the diseased and well animals at once; then look to it that all are provided with clean, comfortable quarters, including abundant protection from driving storms. Their food should be moderate in quantity, and of the best quality. There is nothing better for them than milk, but if this cannot be obtained feed them cooked feed in the form of a thin mush, made of shorts and corn meal in the proportion of two parts of

shorts to one of meal. We should especially advise a close scrutiny of the sire and dam of these pigs. If these animals are closely related, and if the boar especially is a flat-sided, narrow-chested animal, as is too often the case with the Chesters, he ought never to be used again.—Prof. Shelton.

Vacation Notes. No. I.

The past spring, meteorologically and entomologically considered, has been one that the Kansas farmer is not likely soon to forget. He will be likely to hold it in remembrance chiefly for the startling surprises and pleasant disappointments that it has furnished him. It is not often that a whole State is ruthlessly left hanging on the ragged edge of despair during long weeks, and when rescued is instantly "colored," so to speak, by another pack of imaginary foes, as has been our sad misfortune during the used portion of this year of grace 1877. First, we were assured on the highest authority that if "ten per cent of the grasshopper eggs" then in the ground hatched, figuratively speaking "our goose was cooked," and we were earnestly advised to don sackcloth and go to ditching. Well, ten per cent, aye fifty per cent, of the eggs have hatched, but no one is hurt or likely to be damaged. Then, when the "warm spell" in February set in, a great shout arose; the grasshopper eggs were all going to hatch out, and of course they must all be destroyed by the cold weather that was sure to follow. But they did not hatch, and we ought to remember that it takes two or three weeks of the hottest kind of May weather to hatch the eggs in all situations.

A new danger now threatened us. It was discovered that during the winter but little snow had fallen in the mountains, and prophetic philosophers told us in an agony of despair that we were on the eve of another "Kansas drouth." It now looks as though even in the matter of drouths Kansas has ceased to be reliable. With a rain-fall of five and one-half inches for the past week, it must be confessed that the indications for a first-class drouth the present season are anything but flattering.

But whatever may have been the ups and downs of the past three months, this wet, backward spring of 1877 is a thoroughly promising one; and, indeed,

LATE SPRINGS

generally, while they add greatly to the labors of the farm, in this latitude are nearly always the forerunners of abundant summer harvests. The principal cause of the light crops of "small grains" so often seen with us, is the predominance of hot summer weather during the nominal spring season. The line separating our winter and summer is sharply defined. As a rule we are no sooner through with our winters

than summer is upon us; the seed as sown is forced on directly to the harvest; the plant has no time to tiller, nor the grain to develop. The beneficent effect of the late backward spring is strikingly shown by the crops of wheat, oats, barley and rye now in the ground. The plants are stalky and vigorous, having completely occupied the ground; and, if no disaster overtakes these crops before harvest, 1877 will prove a great year for spring and winter wheat, oats, barley and small grains generally. But for

CORN

the indications are not so favorable. The rains of the past month have greatly retarded planting, so that instead of the enormous area of corn generally expected, no more than a bare average has been planted to this great staple. What is worse, the stand generally is not the best; the plants are backward, while the weeds, thanks to the rains, have had a great chance, and have made the most of the opportunity. But there is plenty of time yet to make a full corn crop. Three weeks of "Kansas weather" properly employed by the farmer, are all that is required; only remember he who gets a corn crop in 1877 will have to work for it, and if there is anything in the signs of the times he will be paid for his labor. But how about

THE GRASSHOPPERS?

At this writing all danger from our old enemies seems past. It is true they are thick in places, in the rank weeds and grain, but we are abundantly satisfied that not two per cent of the insects hatched this spring are now alive. There are a number of facts that explain this mortality among these pests. The unusual and protracted cold and wet weather has, besides killing many of the very young insects outright, engendered disease among a larger number of the remainder. Our natural friends, the birds, were never so numerous and active as the present spring. We have been greatly surprised at the number of birds, strangers to this State, which seem to have taken up their residence permanently with us. Robins are almost as common in this vicinity as in New York, and we notice with no little pleasure that a couple of pairs of bobolinks have gone to house-keeping in the blue-grass meadow on the College farm.

On the whole it is safe to conclude that the principal danger from grasshoppers is past. Occasionally, slight damage will yet be reported without doubt; isolated patches of vegetables and grain or grass will often sustain more or less injury; and when the insects begin to travel, the edges of corn fields will suffer to some extent, but beyond something of this sort we apprehend no trouble.—Prof. Shelton.

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THE INDUSTRIALIST.

SATURDAY, JUNE 16, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending June 17th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.	Mean Height.	
Monday.....	11	75°	46°	62° .25	28.80
Tuesday.....	12	79	54	71	28.66
Wednesday.....	13	75	56	66 .50	28.76
Thursday.....	14	87	60	76 .25	28.68
Friday.....	15	85	59	77 .50	28.72
Saturday.....	16	85	65	76	28.88
Sunday.....	17	92	71	83 .75	28.73

Average temperature for the week, 37° .32.
Range of temperature for the week, 46°.

On Sunday, the 17th inst., the thermometer registered 92°. Whew!

Prof. Shelton has a new Marsh Harvester for sale. Price, \$100. Call immediately and secure a good bargain.

Mrs. Ellicott, accompanied by Col. Miller and wife of Clay Center, paid the College buildings a visit this week.

We have begun work on a new catalogue of this Institution which we hope to have ready for distribution in a few weeks at the farthest.

The workmen on the College farm finished planting corn only a few days ago. That which was planted first is growing rapidly, and is as clean a field of corn as can be found anywhere.

The Semi-Annual Meeting of the Kansas State Academy of Science will be held at Leavenworth, June 21st and 22d, 1877. We see by the programme that Prof. Kedzie is announced to lecture Friday evening.

The partition between Prof. and Mrs. Ward's rooms in the College building is to be taken out, and the Drawing classes will hereafter use that portion of the building. Prof. Ward will take the room heretofore occupied by the Drawing classes.

Prof. Ward has exchanged his Ottawa property and his buggy team for a residence in Manhattan. His new home is situated two blocks south and one block east of the Adams House. It is a very pretty little place, and will be much pleasanter and more convenient than the old home on the Hill.

We heard from Will Burnham a few days ago. He says some thirty or forty of those applying for admission at West Point this year must be refused, and he does not know whether he will be among the lucky or unlucky. He is a very deserving young man, and we sincerely hope he will be admitted.

One of Mr. Thomas Morgan's sisters, living some twenty miles west of here, has been very sick for a long time, and on the first of the week was not expected to live. Mr. Morgan was sent for, and went up on Thursday morning to await the sad but inevitable result. A sister is one of the dearest friends a man can have, and this gentleman will have the sincerest sympathy of his acquaintances here in this sad bereavement.

LATER.—The lady died on Sunday morning.

Various circumstances have combined to make us late with our paper for the last three weeks. Since the term closed we have had considerable

outside business to look after, and have been prevented from giving much attention to the paper. Because of our delay this week, we give the meteorological observations up to Sunday evening, and also insert some locals which otherwise would not appear. We shall make a desperate attempt hereafter to issue promptly every Saturday.

The temperance entertainment referred to last week came off according to programme on last Thursday and Friday evenings. The hall was well filled both nights, and the entertainment was a success in every respect. We are glad to see that the Manhattan Sons of Temperance contains persons who have some mettle; who are earnest, enthusiastic, self-sacrificing workers; and who propose to show to the people of Manhattan that in their humble way they are doing a good work, and deserve the support of the entire community.

Another one of our young men has been caught by the marriage noose, has been prevailed upon to leave the happy state of single blessedness and take up for life that yoke and burden which we venture to say, although without experience, is neither easy nor light. We started out to say that on last Wednesday Will Knipe was married to Miss Lillie Paddleford; Elder Davis, the presiding elder of this district, performing the ceremony. We saw the bride and groom in Manhattan on Saturday purchasing household furniture of various kinds, which indicates that they intend to settle down immediately and pursue the even tenor of their way. They both seemed serenely happy, and we see no reason why they should not remain so.

THE 'HOPPER.

The farmers of Kansas have reason to rejoice over the present outlook for crops. The long continued wet weather we have had this spring has been a real Godsend to us. Though it delayed planting and favored the growth of weeds, it was very unfavorable to our friend C. spretus, who suffered severely. A happy combination of circumstances has been working for his destruction ever since the eggs were deposited. The effect of this can now be seen. Had the weather favored the 'hoppers by being dry and hot, we tremble to think of what "might have been."

Unless we receive another visitation this fall, which is barely possible but not probable, we may well consider our experience with the 'hopper of 1877 a benefit rather than a plague. The knowledge gained will be of inestimable value to us, if we are again visited by the 'hoppers. New devices have been invented for destroying them, and their habits have been more closely studied than ever before. We shall thus be prepared to receive them another year, and can fight them intelligently from the beginning. Like evil habits, they can be successfully fought only when young or, better still, in the egg state. The locusts have been flying north and north-west for several days. A few have alighted. The young 'hoppers now with us will commence to leave in about two weeks.

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[Concluded from first page.]

not particularly inclined anywhere, and their occupations are governed mostly by circumstance; yet for nearly every person there is some position that is better suited to him than any other, and towards which he would feel more inclined if he only knew which way to turn. Many of the young men of the present day, instead of glorying in their superior strength and ability, and seeking occupations which require these endowments, are seen entering those which could be well filled by the many young women who need such employment. And as a consequence of their dislike for laborious occupations, there is an inclination to look down upon those who are not afraid of using the implements which the author of nature has given to mankind for his support. Any work when done well enough and large enough, becomes grand, and ennobles the worker. It is the ability to carry on the business that makes it pay, and without this ability who can expect to succeed.

The most important thing in the selection of an occupation is for the young man first to thoroughly study himself. Let him consider well the powers of his physical constitution, the comparative development of the different faculties of his mind. Then let him take every opportunity to become acquainted with the various trades and professions. He should not be in a hurry, give way to some passing whim or fancy, and be led down to ruin as many have; but he should study upon each occupation that takes his fancy; and while he is studying and thinking he will hit upon some good business that he would like to follow. Then let him compare his physical and mental developments with what is required in the pursuit and see if the coat fits. If you wish to be a farmer, which no one who has not a well developed mind and body combined with energy should be, and are not fitted for the calling, you cannot expect to succeed any more than those who are every day failing for want of one or the other of these essential qualifications. The world is full of men whose lives are made utter failures by their not carefully selecting their pursuits according to their abilities. The different professions are overflowing with men who are totally unfit to fill the positions into which they have forced themselves. The criminals who fill our prisons, the drunkards on the way to their graves, have been made such by this mistake. Can a person expect to be a successful editor without brains enough to write a local? Can a person expect to be a first-class blacksmith without muscle enough to wield the sledge? Can a man be a successful farmer with neither brains, muscle nor energy? Then how is it that we find so many such people in the different trades and professions? It is the parents' ambition to have their sons occupy prominent positions; the whims and fancies of youth; the utter neglect of foresight in taking this the most important step in life.

Shakespeare says, "All the world's a stage, and all the men and women merely players." It is the glorious and grand drama of life that is being played; but many do not know their parts, and are trying to play that of some other actor who is also lost; the result being a grand amount of confusion. If any one chooses his vocation according to his physical and mental powers, he necessarily suits his tastes and inclinations; contentment follows; he is encouraged to push forward; he acquires that en-

ergy which is so essential in every pursuit in life; enterprise manifests itself in all of his plans; his mind becomes wrapped up in the business, which gradually assumes the form of a second nature; and he wears the coat that protects him from the cold blasts of the world, and keeps the hungry wolf, despair, from gnawing at his vitals.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to
J. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JUNE 23, 1877.

No. 10.

THE INDUSTRIALIST.

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The Education of the Young Farmer.

At the last meeting of the Midland Farmers' Club, held in Birmingham, England, Mr. Gilbert Murray, of Elvaston, Derby, read a paper on this subject, in which he said that at the present time there was no profession and no business which required a wider range of knowledge, or gave scope to a higher standard of intellectual attainment, than the business of the agriculturist. It was highly essential that the young farmer should be a good arithmetician. He should be well grounded in mathematics and geometry in order to train the mind to correct thought and close reasoning. Mental arithmetic, when taught in schools, brought a whole class into close competition, and had also a wonderful effect in sharpening even the dullest of scholars. In nearly all of the middle-class schools, agricultural science was now taught, and pupils were prepared for the Royal Agricultural Society's examinations. Of science, the elements of mechanics and the laws which governed the action of matter and motion should be clearly understood. Books of chemistry, animal pathology, botany, geology, mechanics and other sciences having a direct bearing on agriculture were read in most of the public schools. Under this course of instruction our future agriculturist would, by the time he was sixteen, be fairly conversant with the difficult subjects to which his attention had been particularly directed. The young farmer might gain a thorough practical insight into every branch of agricultural labor without being chained to the oar, or reduced to the standard of a common hand. To become practically conversant with the mechanism and learn to work the implements and machinery of the farm, was of itself a most interesting and seductive study, and a healthy employment. There was the tillage of the soil, preparation for the various crops, sowing the seed, noting its progress from the tiny shoot to the mature plant, and cutting and securing of the crops. But in attending to all these he must not lose sight of the stock,—the breeding, the rearing, the dairy, feeding off for the butcher, shearing, weaning and drafting off the flock. In each and all of these operations the student should take an active part as a willing assistant, readily asking for information on any point or matter of practical detail not clearly understood. Every young man must undergo such a training who aspired to become a practical agriculturist.—*Rural World*.

Farm Life.

One of the compensations of a farm, not measured by dollars and cents, exists in a feeling of independence and security, which no one can possess more satisfactorily than a

good farmer upon a good farm, well stocked and free from debt. No reverse or revolution of affairs can touch him. In the worst of times the world must eat and be clothed, and the farmer feeds and clothes the world. His market can never fail. There is, in addition to this, the vast satisfaction of possessing in security something which he can improve and adorn and spend his labors of love upon. It pays to live and breathe; social pleasures pay; the attachments of the family pay; the culture derived from the study of books, of men, and of the beauties and mysteries of nature pays; and all these the farmer may enjoy, if he will, in a greater degree than the majority of other men. He may labor harder, and be exposed to heat and cold and rain and storms, but the sleep of the laboring man is sweet to him; he breathes the purest air, and enjoys the easy digestion of food, which consists of the best and the freshest the fields, gardens and orchards yield. He may "find tongues in the trees, books in the running brooks, sermons in the stones, and good in everything." In all these he may count his profit; and the farmer who ignores all but the money he can gather at the end of the year, lives but a small portion of his life, and that the worst. It is all that makes the possession of land a passion inherent in the disposition of a man, although he may not fully recognize it, and it may be latent in him; and it is this which forces the successful man to seek recreation upon a farm, and the disappointed one to find solace and resources there.

We would point out what seems to us really the most profitable results of a farm life, and that which to us has been productive of more comfort and enjoyment than all the pecuniary results. No one supposes for a moment that farmers can live or enjoy life without at least as fair an equivalent for their labors as others can secure; but it is a mistake, made by many farmers, that many other industries offer higher compensation for labor than theirs; and they forget that much that they enjoy without cost is absolutely necessary to the comfort of every man, and is purchased dearly by others; the value of this never enters into the calculation of a farmer's profits.—*New York Times*.

Swallowing a Farm.

Somebody once said, "Our government land costs one dollar an acre, and good whiskey two dollars a bottle. How many men die landless, who during their lives have swallowed whole townships, trees and all!" There is food for reflection in this statement. Every day of our lives, and almost every hour of each day, we meet individuals not merely landless, but homeless, hopeless, penniless, who in the course of their lives have swallowed ardent spirits enough to pay for land and house, and have money in their pockets.

But it is not the drinker of ardent spirits alone who thus deprives himself of the comforts of a home,—the tobacco chewer, the cigar smoker, the young man who spends precious hours of each day and evening in less than idleness. How rarely such per-

sons reflect upon the folly of their course! The young man who smokes three five-cent cigars a day, and many of them are doubtless a quantity at double the price, puffs away enough in the course of ten years to give him a handsome start in business, or to provide himself a comfortable home. How frequently we hear such persons complain of their inability to take a newspaper, or purchase an interesting book! They will tell you they are too poor for that, and yet the next moment will spend for a glass of ale or brandy, or for a cigar, a sum sufficient to pay for two papers. And this folly is repeated perhaps a dozen times in the course of twenty-four hours. Young man, give this subject a moment's reflection. Sit down and calmly think it over, and if when you have fairly done so you conclude that it is better to drink and smoke, go on. The day will come when you will discover your error, and that discovery will be made when it is very likely too late.

Beautify Your Homes.

It is astonishing to see the lack of taste around many village and farm houses, and their owners seem to think that it is money thrown away to beautify their houses; but let them offer their places for sale and they will realize the difference between a house without paint, or with one coat in a lifetime, with no blinds, no pleasant door-yard, no tasty fences around the house, no shade trees, no fruit trees, no beds of flowers, no climbing vines up the porches, no garden worthy of a name, no snug, well painted outhouses, no nicely graveled walks; but in their places we often find a dwelling out of repair, outhouses in a state of decay, fences in poor condition, and the general appearance of the place repugnant to our feelings. We see the old sign, "This place for sale," hanging on the old tree with barely a leaf upon it. Here it has hung for many years, and there it will continue to hang probably till the owner goes into his grave. Nobody wants to buy such a forlorn looking "home;" and people in search of a country place pass on till they see another sign, "This place for sale;" and here they find order, taste and neatness prevailing,—a beautiful cottage or other style of house, outbuildings in good repair, fences neat and in good order, shade trees abundant, fruit trees loaded with apples, plums and cherries. In the well-planned garden they find an abundance of strawberries, quinces and grapes; and the place suits them, and they purchase it.

Now, this place cost but a little more than the one they passed, in regard to its adornments. What was done to beautify it was done by degrees, and the expense was never felt as amounting to much; and so it always is with people who commence to lay out their homes in the right manner.—*Farmer's Friend*.

The farmers of Saline county are erecting an elevator at Salina.

The farmers of Cowley county began to cut their wheat on the 11th of June.

THE INDUSTRIALIST.

SATURDAY, JUNE 23, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

Higher Industrial Education.

Those who are laboring for the better education of the industrial classes are obliged to confront two formidable obstacles. These obstacles are two long-established and deeply-formed opinions. First, that higher education and industrial pursuits are incompatible; second, that those who pursue industrial vocations require only a limited education.

The term higher education is evidently used in comparison with an education that is inferior. It is contrasted with what is generally termed a common school education. The term also embraces the element of time. He who has spent several years of his youth and early manhood in school is supposed to have acquired this higher education. It is also expected that he will enter some profession. If he has been fully benefited by his course of study; if he has really been brought under the influence of his instructors, and imbibed the spirit of the institution to whose fostering care he is indebted for his intellectual growth, he will enter one of the so-called learned professions. The bar, the pulpit, the tutorial chair, or it may be the scalpel, are presented to his choice. Should he turn aside from them and enter business, or follow some industrial calling, his classmates would regard him as a renegade, and his tutors feel that their labors had been in vain. The opinion of the public would be that the young man had foolishly squandered his time and money in obtaining this higher education. His ill success in life would probably justify that opinion.

It must be admitted that there is not much compatibility with industrial pursuits and the higher education. This education was never designed for those who expect to engage in manual labor, or to follow the industrial vocations. It is an education which has been found by long experience to be the best preparation for those whose future life is to be filled up with intellectual labor. It is simply a preparation for the so-called learned professions. The tendency of the whole course is towards a profession. Nearly all who graduate from colleges enter the professions. Large numbers who acquire only a modicum of the higher education crowd into the professions, because of the strong influence of this training in that direction. The greater number of the graduates of the high schools in our larger towns aspire to become lawyers,

preachers, doctors or teachers. That even more do not enter the professions surely cannot be charged against or credited to our present educational system.

But is the education furnished by the high schools and colleges of our country the only higher education? Is there not a higher education sustaining the same relation to industrial vocations that a literary education sustains to the professions? We believe there is. We believe that there is a higher education not incompatible with industrial pursuits. Why are the people of this country, and especially of this State, so interested in educational matters? Why are they so anxious that their children should secure an education? Because they believe it will be for their welfare. The welfare of their children, their success in life, is the end sought. Education is regarded as the means to secure an object, not the object itself.

What is it to educate? It is to lead out or to develop all the inherent powers of the human being. It is not the development of the intellect alone. It relates to the trinity in man—the body, intellect and soul. A symmetrical education is the development of all of those elements which make up the individual man, and each to its fullest extent. This is our conception of the perfect man. But how seldom is this ideal realized. We find a partial development only; a giant intellect enthralled within a weak, puny body; or a strong, muscular frame under the control of a puerile mind; or a soul dwarfed or besotted. To remedy this and to realize the ancient ideal of perfection, "*mens sana in sano corpore*,"—a sound mind in a sound body,—gymnasiums and regattas have been devised; but how few comparatively of college students derive any benefit from these modern appendages to the college course. Neither does the gymnasium give the proper physical training. The most accomplished gymnast might only wield the sledge-hammer in the forging-room, and the prize crew of the latest regatta, or the first nine of the champion ball club, in any useful manual occupation requiring skill, might compete only with the lowest class of common laborers. Skill in something useful, ability to do that which will pay, power to transmute muscular force into dollars, is an essential element of a true physical education. Because this element was lacking in their preparatory training, so many briefless lawyers, unemployed physicians, and uncalled clergymen in the strength and vigor of their manhood are contending with pinching poverty.

All intellectual development involves the acquisition of facts and principles. It is the office of the educator to present those principles and facts which will call into action the latent powers of the mind, and incite in them a vigorous growth. This develop-

ment of mind is attained by no one set of principles or class of facts. All that is necessary to observe is the natural law of growth. Hence we believe that a high degree of mental culture may be obtained by pursuing those studies which relate to agriculture and the mechanic arts. We also believe that the studies relating to those subjects have so broad a range that it will require years to complete a full course, and during those years of study the training may be such as to fix the attention of the young man upon some industrial pursuit, and to prepare him for success therein. In our opinion such a course of study and training is practicable, and it is the one demanded by this material, practical age.—*Prof. Ward.*

No Place.

A great many boys complain that there are no places. Perhaps it is hard to get just such a place as you like; but when you get a place,—and there are places, for we are sure this big country has need of every good boy and girl and man and woman in it,—we say, make yourselves necessary to your employers; make yourselves so necessary by your fidelity and good behavior that they can't do without you. Be willing to take a low price at first, no matter what the work is if it be honest work. Do it as well as you can. Begin at the very lowest round of the ladder and climb up. The great want everywhere is faithful, capable workers. They are never a drug in the market. Make yourself one of these, and there will always be a place for you, and a good one, too.

Happiness.

How much is contained in that one word—happiness! How much more happiness there would be if we thought of the happiness of others rather than of our own! But, instead, we are often so selfish in looking out for our own pleasures that there is not much room left in our hearts to think of anybody else. Wives and mothers should always strive to make home happy, so that it may be a place of pleasure for the husband and father. It has been remarked that "no statue which the rich man places ostentatiously in his window is to be compared to the little expectant faces pressed against the window panes, watching for father when his day's occupation is done." Nor is the power to make home happy confined exclusively to the wife and mother. The father and husband also should be cheerful, no matter if his business perplexes him, and makes him gloomy and dissatisfied. That frown must disappear before he goes home, for his little ones would feel sorrowful if "papa's not to be bothered to-night." These little ones should always be kept happy.

Germany supplied France with \$4,000,000 worth of flour in 1876.

Switzerland is increasing her trade in condensed milk, making available as an article of export that which was formerly wasted.

Nine hundred million pounds of butter and cheese, valued at over \$124,000,000, were produced in the United States during the year 1876.

THE INDUSTRIALIST.

SATURDAY, JUNE 23, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

President Anderson's present address is Manitou, Colorado.

S. C. Shuemaker is attending Eastman Business College, Poughkeepsie, New York.

Prof. Kedzie's absence prevents us from obtaining the meteorological report for the past week.

Prof. Shelton has a new Marsh Harvester for sale. Price, \$100. Call immediately and secure a good bargain.

Capt. Todd has the neatest, cleanest little farm we have seen for some time. It is one of the prettiest places on College Hill.

The College farm rejoices in the late arrival of a very handsome litter of Berkshire pigs, the get of the celebrated imported Lord Liverpool.

George Platt is teaching music in the city of Vienna, Pottawatomie county, and we understand is meeting with good success. George is a good musician for one of his years.

The grasshoppers are not doing much damage, although they are quite numerous in this vicinity. They are getting their wings, and in the course of a week or ten days will take their departure.

Mr. Walters has been rusticated among his friends in Davis county for the past two weeks. He took a trip out to Enterprise while absent, and reports crops in a good condition and grasshoppers scarce.

The contract for putting up the new school building in Manhattan has been let to Messrs. Jacob Winne and D. H. Hulse, who agree to do the work for \$11,203. The building will probably be ready for occupancy about the first of January.

Major D. W. Crane, everywhere known as the manager of the celebrated Durham Park herd of Short-horns, paid us a pleasant visit on Tuesday. The Major reports stock doing well and sales brisk at the Park, and also expresses satisfaction at finding so good a herd upon the College farm.

A portion of the tribe of Poncho Indians passed through Manhattan to-day. We understand that there about five hundred of them, and that they are bound for the Indian Territory. Some of them travel on foot, some on horseback, and others in wagons drawn by horses, mules or oxen. When formed in line, they make a sight almost equal to a circus procession.

Prof. Platt and family intend starting for Brighton, Illinois, next Monday, where with their numerous relatives they will spend the vacation. The old "ark" is to do the work of transportation, and about one-half of the vacation will be spent in going and coming. We trust the Professor and his family may realize all their anticipated pleasure, and in due time be permitted to safely return.

According to dispatches and reports from various sources, the Kansas editors had a jolly time on their excursion to the mountains. They were very kindly received and generously treated at the places where they stopped, and return with a feeling that they have been amply repaid for the time spent in the trip, and are in a better condition to discharge their arduous duties during the coming hot weather than they otherwise would have been.

Mr. Sam Ferguson, of Manhattan, is putting forth all his energies to make a success of the pro-

posed excursion to the mountains. Over one-half of the tickets have been sold, and as the time of departure approaches of course tickets will be in greater demand. It is quite a project, and affords people of all classes an opportunity to visit Denver and the mountains at a very little expense. The excursion train will start from Manhattan at 4:41 P. M., July 2d, and will follow the regular western passenger train through to Denver. The excursionists will be gone eight days; will spend the "glorious 4th" in Denver, where a grand celebration is to be held; and will divide up into parties and explore everything of interest in the country surrounding that beautiful city. Tickets for the round trip only \$10.

Last week three tramps stopped at Tom Morgan's house, where Johnny Griffing is "baching," and asked him for some dinner. They were kindly served, but nevertheless looked upon as suspicious characters. After leaving the Morgan house, they were seen to go down the hill towards Prof. Gale's. No farther notice was taken of them; but in the evening when C. O. Smith, our employe, went down to the old horticultural house to get his supper, he noticed the doors were all open, that things were scattered around promiscuously, and concluded that some one had been there. On examining his trunk, he found that two coats, a vest and two shirts had been taken; and of course it was an easy matter to tell what had become of them. The country is full of these light-fingered chaps, and nearly every paper we have taken up for two weeks has contained a notice of the outrages that were being perpetrated in different communities by these miserable scamps. Mr. Smith is an industrious young fellow, working hard for a trade and an education, and keenly feels this loss. If these whelps must steal, we wish they would be careful to visit only those who are abundantly able to sustain the loss. Will not the city council take immediate steps to rid the town of these pestiferous creatures?

Arrangements are being made for a grand temperance picnic in Brous' woods on the 4th of July, under the control of the Sons of Temperance and the Children's Alliance. A good time is anticipated, for the grounds are best adapted for picnic purposes of any in this vicinity. Good shade, good boats, good fishing, etc. A very cordial invitation is extended to the friends and members of neighboring Divisions to unite with us. It will be a basket picnic. The usual refreshment stands will be furnished by different parties.—*Nationalist*.

We clip from this week's *Enterprise* as follows:

Riley county has 301,319 bushels of corn on hand, worth at present quotations \$90,395.70.

Mr. S. Whitney showed us a worm the other day that he had taken from a full-grown grasshopper, which was nearly eight inches long. He sent it to Prof. Riley.

A post-mortem examination was held over the body of Mr. Mensing's little boy. The left kidney was taken out and found to weigh eleven pounds, while the child at its death only weighed thirty-five pounds and a quarter.

S. Hemsley showed us an Early Rose potato that he had raised in Mr. Ferguson's yard this season, that measured four inches in length and seven inches in circumference, which is a good-sized potato for this time of year.

A Thorough and Direct Education for the Farm, Orchard, Shop and Store.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas. 9-1f

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Dress-Making and Millinery.—Daily instruction and drill in hand and machine sewing; cutting, fitting and making dresses; and all branches of millinery, by a practical teacher.

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

A Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas. 8-1f

Printing!—Daily instruction and drill in the work of a First-Class Printer. The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that taste necessarily exercised by every good Job Printer. The Printing Department is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer. Besides regular class instruction in printing, the weekly publication of the *INDUSTRIALIST* by the Department furnishes advanced students the requisite drill in newspaper work.

THE INDUSTRIALIST.

SATURDAY, JUNE 23, 1877.

AGRICULTURE is an employment the most worthy of the application of man; the most ancient and the most suitable to his nature. It is the common nurse of all persons in every age and condition of life; it is the source of health, strength, plenty and riches, and of a thousand sober delights and honest pleasures. It is the mistress and school of sobriety, temperance, justice, religion and, in short, of all virtues civil and military.—*Socrates.*

AGRICULTURE, says a farmer writer, is one of the noblest and purest professions known among men. Freer from temptation than any other, it is better adapted to develop both the physical and moral nature, while the true dignity and manly independence which it inspires ought to commend it to our young men who are just starting out on the journey of life. It bodes no good to the future welfare and happiness of our country that so many of our young men are seeking positions as clerks or salesmen in our towns and cities. Aside from the temptations to which it subjects them, it is a bad movement for them and for the country financially. The great lesson which our youth need to learn is *economy*—the art of living within our means, and nowhere can this lesson be so successfully taught as among the *producing* classes. The corruptions, extravagance and *indolence* engendered by our late civil war are absolutely alarming, and the only hope for the future is for the people to go back to first principles.

The life of the farmer is not free from toil and anxiety, but after all it is the happiest and noblest upon earth. The truth is, there are no "soft places" in any department of human effort if a man honestly and faithfully discharges his duty.

If I could reach the ear of our young men in the country, I would say *stick to the farm*, you will never find a more honorable vocation.

News Items.

Water from the Iola mineral well is being shipped to London, England.

The coal borers at St. Mary's have got down 148 feet. They predict paying coal at 300 feet.

Large flocks of bobolinks have made their appearance in the western part of the State, where they feed upon the young grasshoppers. This is the first time they were ever known to appear in this State.

Says the *Holton Recorder*: "We have in our office a curious petrification, which was presented by Mr. H. Moore, of Circleville. It is a stone about two inches in length and one in width, made of grasshopper eggs and sand. Mr. M. picked it up on his farm."

The average yield of corn, per acre, in Kansas, for a period of twelve years (1864 to 1876, was 362 bushels; wheat, 158. This is a higher average than can be shown by either Massachusetts, New York, Pennsylvania, Ohio, Indiana, Illinois or Missouri.

A Massachusetts farmer, having recently visited Kansas, writes to his home paper, giving his opinion of Kansas and her people. He is delighted with the soil, the climate, the landscape, the people; but he adds: "As a class, Kansas farmers are the most extravagant of any I ever heard of or saw in any place or station in life." He

saw plows, reapers, mowers, horse rakes, harness and water jugs left where months ago they were last used; and he closes by saying: "If there were the New England thrift and economy on these farms, Kansas, in ten years, would be our richest State."

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the *INDUSTRIALIST* by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

Record, Beloit, Kansas. A real-estate paper. 25 cents per year. Tells all about north-western Kansas. Kelly & Bertram, Proprietors.

News, Girard, Crawford county. A Democratic weekly paper published at the county seat of Crawford county, \$1.50 per year. Tipton & Lamoreaux, Editors.

New Century. The temperance paper of Kansas. Published at Fort Scott. Weekly, at one dollar a year. Rev. Jno. Paulson and Jno. B. Campbell, G. W. C. T., Editors. Sargent & Co., Publishers. 47-3m

Independent, Minneapolis, Kansas. Established 1871. The oldest, largest and cheapest paper in the beautiful Solomon Valley. Price \$1.50 a year. Politics, independent but not neutral. W. Goddard, Publisher. 43-3m

Home Record, Leavenworth, Kansas. Established in 1872. Is the organ of the Home of the Friendless, an Institution founded and controlled by the women of the State of Kansas. Circulation, 3,200. No better medium for advertising in this section. Mrs. C. H. Cushing, Editor. 44-3m

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

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Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the *KANSAS FARMER* very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks"*. I read your *FARMER* with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the *KANSAS FARMER* as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas. 38-3m

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JUNE 30, 1877.

No. 11.

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Common Roads of Kansas.

[A paper prepared by Mr. William Ulrich, as an exercise in the class of Civil Engineering.]

Road making in Kansas is not a difficult task. Probably there is no other State in which it is easier to make roads and keep them in repair. The surface of the country is undulating enough to afford good drainage, while it is not so rough as to require many fills, cuts or tunnels. The streams are not rapid enough to cause any special difficulty by washing out bridges when they are properly built. And the surface soil is such that it makes a very good road-bed, suitable for ordinary traffic, without covering of other material. And yet, with all their natural advantages, the roads of Kansas are on an average very poor. This is the result of two causes: First, not enough money is spent on the roads; second, about one-half of the money that is spent is wasted in consequence of the manner in which it is spent. The present manner of spending this money is somewhat as follows: The law provides that a poll-tax of three dollars shall be levied on all male citizens between the ages of twenty-one and forty-five; also that a road tax shall be levied on all property. These taxes are paid in labor on the roads, under the direction of an overseer who is elected each year. Generally, he is a man who has had no experience in managing a large gang of men, or in making roads, and as a consequence knows nothing about either. As the overseer is paid by the day, it is desirable that he should get in as little time as possible; so all those who have taxes to pay endeavor to work them out at the same time; consequently, the overseer has a large number of hands to look after, and as he does not know how to manage them properly the result is that part of them are idle about half of the time, although their pay goes on just the same as though they were at work. But even the work that is done does not improve the road as much as it ought to. Indeed, in some cases it would have been better to have left the road as it was.

The ways in which roads are "worked" are many and various. A mud-hole is to be crossed. Instead of cutting a ditch to drain it, and then filling up the the road-bed with good solid earth and stone, a lot of straw, brush and other rubbish is dumped in, covered with earth, and that place is "fixed" until the brush and straw rot, when it is as bad as ever. The road runs along a side-hill, and it is necessary to provide some way for the water which falls on the hill to cross the road, otherwise it would spread along the road and keep it muddy for a long time. Instead of building a good culvert, a shallow ditch is dug across the

road. The damage which this does to wagons and harness until it fills up, frequently amounts to more than a good culvert would have cost. A wet, marshy piece of ground is to be crossed. Instead of draining the ground as nearly as possible, and then raising the road-bed from two to three feet, a narrow ridge about one foot high and just wide enough for one wagon is thrown up by plowing up the whole road, throwing the dirt toward the middle, and then using a scraper; or it may be that by the time the plowing is finished the taxes are all worked out, so the road is left in that condition to take its chances until the next spring. These are not imaginary cases; they are real ones, and they are not exaggerated in the least. It is possible in a day's drive on any one of the roads leading from Manhattan to find a dozen cases that are as bad if not worse than the examples just given. As a result of this system of making roads, they are generally in bad condition even in summer, while in winter they are in many places simply horrible. But with the same amount of money that is now spent or rather wasted upon our roads, it would be possible to have them in much better condition. And here I shall give some of the means by which a road might be improved without any additional expense.

A road overseer should always make it a point to repair the worst part of a road first. The load which can be hauled over a road is measured by the load which can be hauled over the worst part. And in making the repairs they should always be made as permanent as possible. By doing this the road will continue to improve from year to year. One of the worst features of our roads is their short mud-holes, varying from a few yards to several hundred in length. In making a road through them, they should if possible be drained and the road-bed raised about one foot. But in some cases draining is not practicable, and then it becomes necessary to resort to other means. In such cases, the best plan is to raise the road-bed at least two feet above the level of the water, making it at the top at least twenty feet wide and slightly convex, and giving the sides a slope of about one rise to three base. It is true that to make such a road-bed as this will involve considerable outlay, and this may be an objection. But if we consider that such a road-bed will last indefinitely, with a very slight annual outlay for repairs, and that it furnishes a good road all the time, while as before the road was almost impassable at certain seasons of the year; and, farther, that the original cost of the road plus the cost of keeping it in repair for five years will not exceed the amount spent on the same road in the same time under the old plan of throwing up a slight ridge in the middle of the road which wore down in two or three months, it will be seen that the balance is in favor of the proposed method.

Side-hill springs are a fruitful source of bad places in roads, as they generally have no determinate outlet, but ooze out of the hill for quite long distances. The obvious

necessity in such cases is to collect the water by a ditch and carry it through the road by a culvert. But if it is found that an open ditch is not sufficient to catch all the water, but that part of it soaks under the ditch and then comes to the surface below it, it will be necessary to put in a covered drain in addition,—made by digging a deep trench and filling it with stones, and then covering with brush-wood and earth. This drain should also discharge through the culvert.

Another point that demands particular attention is culverts. They should always be built of ample size. It is better to have them too large than too small. Since the velocity of the current increases as the water-way diminishes, it follows that if a culvert is much too small the velocity of the current will be increased, so that it will be very liable to wash out the culvert. The foundation should be placed some distance, varying with the size of the culvert and the velocity of the current, below the bed of the ditch or stream; and this bed through the culvert, and for some distance above and below it, should be covered with stone to prevent its washing. This latter precaution will, however, only be necessary when the soil is of a light, sandy character, or the current is rapid. Where the soil is a heavy clay and the current is sluggish no protection will be needed.

In laying out and making a road, care should be taken to avoid steep grades. A steep grade is like a mud-hole in some respects, as it determines the load which can be hauled over the road; but it is not as bad, as it only retards in one direction while a mud-hole retards in both. When it is possible to avoid a steep grade by a short detour, it should be done; but when this is not possible, the grade should be made, by cutting and filling, as gentle as the means at command will justify. In a long slope it is well to have several short levels where teams can rest, as by this means a team will be enabled to take a much larger load up a hill than if it was a continuous slope.

The above are a few suggestions in regard to road making. It is not pretended that they cover the entire field, nor even any considerable part of it; nor is it affirmed that they will be applicable to all cases. To cover the entire field and give directions and lay down formulas that would apply to all cases within the State of Kansas, would take up a large volume; and even then it is doubtful if it could be made so full and complete as to preclude all necessity for individual judgment and experience.

Road making, like other branches of engineering, requires that those who engage in it should possess the requisite knowledge. But under the present system it is impossible that all, or even the greater part of the road overseers, can possess this knowledge. The road overseers are elected every year. In electing them little or no attention is paid to the fact that they do not possess the requisite qualifications; but if they are good

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, JUNE 30, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

Vacation Notes. No. II.

We have just returned from a brief visit to Durham Park, Marion county, the home of the celebrated Durham Park herd of Short-horns, in some respects the finest herd of Short-horns in America, and in all respects an honor to the State. The readers of the INDUSTRIALIST are already generally familiar with the make up of this noble herd, and I may be pardoned for omitting a detailed description. It will be sufficient here to say that Durham Park has all the external signs of a flourishing institution. In securing the services of the present superintendent, Mr. Watson, a thorough-going Scotch farmer and well-known breeder of Angus cattle, Mr. Crane has been peculiarly fortunate. Major D. W. Crane, the manager of the Short-horns, is an enthusiast in his department; and whether we consider the infinite windings of fashion in the matter of pedigree, or those more substantial qualities which have given the Short-horn race its reputation, the Major is master of his art. Doubtless, much of the present success of the Durham Park herd is chargeable directly to the well-directed labors of these gentlemen.

We notice with pleasure the recent addition of a fine herd of Berkshire swine to the stock of Durham Park. Speaking of Berkshires calls to mind some of the tendencies of

MODERN BERKSHIRE BREEDING,

which it seems to us cannot but work incalculable injury to this most useful race of swine. Just now the mania runs for imported animals. Every breeder, great or small, aspires to have an "imported" boar at the head of his herd, and whether the animal is good individually, or in the matter of breeding, or whether he has any pedigree at all, seem to be matters secondary and trivial when compared with the overwhelming fact that the animal first saw daylight on the other side of the Atlantic. As a result of this craze, improvers of Berkshires in America are no longer known; our breeders have degenerated into mere traffickers and importers,—men who buy and sell on commission, with barely a trader's interest in their wares. If we supposed for an instant that this slavish subservience to English breeders would result in the improvement of our swine, we should be slow to condemn this fashion, but the reverse is almost certain to be the case. Already, grave charges are whispered against the

three or four English breeders who, without opposition, supply the American market. It is said that so severely are these English breeders pushed to furnish a sufficient number of animals, that ordinary market hogs and animals with only two or three crosses of pure blood are freely used for the American trade. Certain it is that there is very much in the make up of many of the animals lately imported which is far from creditable, either to British breeders or their American customers.

While the breeding of Berkshires is now attended with these discouraging circumstances, we yet believe it is possible for one having the necessary skill and capital to make a fortune and a reputation at the same time in the business of legitimate breeding. Perfect as the breed now is, there are yet vast possibilities for the scientific breeder of Berkshire swine. What Abram Renick has done for Short-horns may yet be done for Berkshires; only this, it will require Renick's skill, patience and capital. The vulgar art of the peddler will be of little avail.

If we may judge from the general tenor of the agricultural papers, the subject of

PIG FEEDING

is one that just now greatly interests the farmers. Every one who reads attentively his agricultural papers must have noticed the surprising number of speeches, addresses and papers upon the above subject, which have appeared within the last six months. But in every case, so far as I have observed, the subject is *pig* feeding, not *hog* feeding. The truth is, no one can afford to keep swine until they are a year and a half old for pork; and this fact is, or ought to be, patent to the understanding of every farmer. Except for breeding purposes, the hog is destined to become obsolete at no distant day. The great advantage, although not the only one, possessed by the improved breeds, is their ability to fatten when they are pigs. Further, they are great consumers of food, while they waste but little. To make good pigs, the pigs we "read of," it is only necessary to have good blood to start with, and then feed abundantly of the most nutritious foods. That animal which consumes the most food, other things being equal, will be the most profitable. We ought to remember that the object in soaking, grinding and cooking food for domestic animals is to make their foods more palatable and digestible; to make the animals eat more, in short.

To get the best results from pig feeding, the animals must be fed often. Pigs should never be fed less often than three times each day, and he who would obtain the most rapid development of his animal, as well as the best returns for the food consumed, ought to feed no fewer than five times each day.—*Prof. Shelton.*

Educated Farmers.

If we were asked to point out any special fact as denoting beyond all others our rapid progression in learning and in civilization, we should select the strong tendency everywhere manifest to abolish empiricism in all pursuits of life. It is not very long ago that the physician administered his remedies blindly, and knew less of the functions of the heart than does his modern descendant of the spleen and gall bladder. Meteorology, most fickle of sciences, based as it is upon the most changeable of all things, the weather, has within a very few years made marvelous strides; and we are certainly advancing to a point when it will be as easy to foretell the rain and storm of tomorrow as to remember the fine weather of yesterday. Even cookery is no longer to be the science in which inaccurately compounded ingredients under constantly varying conditions are supposed by some pleasant fiction to yield inevitable results; for has not a college been endowed to educate our *chefs de cuisine*? Thumb rules in every trade are now scouted by every intelligent working man. The world has shaped itself into a gigantic point of interrogation; "why" is the question of the hour, and faith in things earthly is confined only to those who, like the deluded partisans of Keely and others of his ilk, mistake ignorance of that which is possible for belief in that which is not.

Of all the sciences, none within recent years has so quickly emancipated itself from the fogs of empirical conjecture as that of agriculture. Up to the end of the last century even, people believed that air, water, oil and salts were the sources of plant nutrition. Wallerius, Bergmon, Pallissy, Davy, DeSausure and Sprengel contributed discovery after discovery, investigation after investigation, but their work was scattered and little known outside their laboratories. It was reserved for the genius of Liebig to unite all these fragments of truth; but it was not until 1840 that he produced his great work, "Chemistry in its Application to Agriculture and Physiology," and thus gathered in concrete form the materials which are now a great and growing science. It is hard to realize that agricultural chemistry has found its application for but twenty years, so clearly are its benefits before us in tangible form. But on the other hand, this only serves to indicate to us how vast must be the result yet to come, when agriculture, through the instrumentality of its knowledge, shall have become in its turn as exacting as its sister sciences, and as susceptible of being taught and learned in the same manner as they. And to obtain this much-desired end, our schools and colleges, under the guidance of far-seeing men, are doing splendid work.—*Scientific American.*

Wheat brings \$1 and \$1.15 at Independence.

The Blue Rapids water power drives ten turbine wheels.

150,000 cigars are manufactured in Atchison every week.

At the recent cattle sale at St. Mary's Mission, 111 animals were sold at an average of \$50 per head.

Mr. Pierce, of Oswego, has a sow pig, not quite fifteen months old, that has given birth to twenty-one live pigs, two litters.

Kansas has 2,200 miles of railway in operation. By the end of the year it is thought the number of miles will be increased from 300 to 500.

THE INDUSTRIALIST.

SATURDAY, JUNE 30, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

Miss Cassie Moore has returned from Topeka.

Prof. Shelton paid his respects to Major Crane, at Durham Park, Marion county, last week.

A. N. Godfrey, who has just returned from a grasshopper tour, will start for St. Louis on Monday.

The "Fat Jack" and "Slim Jim" base-ball clubs of Manhattan are to play a match game on the 4th. We sympathize with them.

Miss Belle Pound, who has been teaching school near Milford for several months, has returned to College Hill to spend her vacation.

M. F. Leasure favored us with a "postal" this week, upon which he says he is well, crops are splendid, and that Linn county is having plenty of rain.

Mr. Washington Marlatt is making some improvements on his farm, the most prominent of which is the large addition to his residence, on the south and east sides.

This week Prof. Kedzie is attending the State Teachers' Association at Emporia. On Thursday he delivered an address on "Elementary Science for the Common Schools."

Mrs. Thomas Wells' night blooming cactus unfolded its buds on Sunday evening about eight o'clock, and was visited and admired by quite a number of Manhattan citizens.

Noble L. Prentiss has gone to Europe, and those who desire to read a series of rich, racy and instructive letters should take the Topeka *Commonwealth*, as he is to be a regular correspondent of that paper during his absence.

Prof. Gale and Mr. John Mann returned from Milford on Tuesday, near which place for two weeks they have been at work on the Gale farm. The Professor obtained quite a collection of botanical specimens while absent.

W. C. Stewart has gone to Irving. This time last year he went up there to see his girl, but now he is visiting his wife who is staying with her parents during vacation. What changes time brings! If Johnny Griffing would only get—but we forbear.

Mr. Jaquith and family have removed to Milford, which place they expect to make their permanent residence. For the last three years Mrs. Jaquith has been engaged in boarding some of our students, and we are sorry, as we know the students will be, to have her leave.

On Monday at 4:41 P. M., George A. Gale and — a-n-d — "ye local," which interpreted means Stewart, will start for the "old Rockies" on the excursion train which leaves this place at that time. Although the excursion was gotten up for our especial benefit, a few other Manhattan friends are to be allowed to accompany us,—just to make the trip pleasant, you know. Besides visiting all the noted glens, gardens, canyons and passes, these two distinguished persons also expect to minutely examine the minor points of interest,—such as Pike's Peak, the summit of the Veta Pass of the Sangre de Christo range, etc. We will try and find time to write a letter to our friends during our absence, and send it to them through the *INDUSTRIALIST*. The principal subjects treated will be the scarcity of work, number of men out of

employment, and exorbitant hotel charges; just making a mere mention of the salty springs, "big hills," etc.

On Thursday night the Manhattan post-office was burglarized. The thieves entered Peak's blacksmith shop and procured what tools they wanted to accomplish their work. They then proceeded to the post-office, and after entering it attacked the safe, in which the postmaster, Mr. Pillsbury, keeps his valuables. With a sledge-hammer they knocked off the safe-knob. This gave them access to the lock, which they broke off; and the door was opened and some four or five hundred dollars, mostly in registered letters, removed from the safe. Three years ago this post-office was entered and robbed, and the perpetrators of the deed were never captured. Probably the same party or parties participated in both robberies; and doubtless they are persons who are not strangers to the condition of the office and its general surroundings. This will be a hard stroke for Mr. Pillsbury, if he is compelled to make good the amount which has been stolen; and we trust that every effort will be put forth to capture the thieves, recover the money, and punish them to the full extent of the law.

Two Bonapartes in the bud from Kansas graduated at West Point the other day, Albert Todd and Calvin Esterly. In a class of seventy-six, in the order of general merit, they stood five and twenty-seven respectively. William M. Black, of Pennsylvania, stood first on the list.—*Hutchinson Interior*.

Mr. Todd has a furlough until November. He is now visiting friends in the East with his mother and brother, and is expected home with them about the first of August. The family justly feel proud of him.

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English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

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"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

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ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, Sup't Farm,
(11-tf) Manhattan, Kansas.

[Concluded from first page.]

Republicans or Democrats, as the case may be, they are elected, although they may know no more about road making than a twelve-year-old boy. In their work they follow no general plan, each one carrying out his own ideas, and in so doing probably undoing much of the work of his predecessors. In consequence of this ignorance some of their work is entirely useless, and much of it becomes so in a short time. It is not, however, asserted that all road overseers are as bad as this,—only the majority. Now the remedy for this state of things lies in devising some means whereby those who have charge of our roads will be men who understand their business; men who know what they are about, and will not make such stupid blunders as we see made on the roads every day. It is true that it will cost more to secure the services of such men, but it would be better to pay a little additional and have better roads and get the full value of the taxes than to have about half of the taxes wasted, and then have poor roads. How this could be accomplished, whether by having a county superintendent of roads and having the district overseers work under his direction, or by uniting several districts in one and employing an engineer for the summer, or in any other manner, I shall not attempt to say. But one thing seems evident, the office of road overseer should not be a political one.

This subject of roads is one that should receive the careful attention of farmers especially. To them it is one of vital importance. Proximity to market is one of the elements which determines the value of a farm, and this depends greatly upon the condition of the roads between the farm and the market. For instance: Here is a farm twelve miles from market; the road between them is a good one, over which it is possible to haul a full load without any undue fatigue to the team; a team can easily make a trip in a day. Another farm is only six miles from market, but they are separated by a bad road, over which it is impossible to haul more than one-half of a load. A team makes two trips a day, taking one-half of a load each time. Now, it will readily be seen that the latter farm is practically just as far from market as the first one, since it costs the same to market the produce when it ought to cost only one-half as much. And when we take into consideration the fact that there are many farmers who have to transport their corn and wheat to market over this same road, it is perfectly plain that in a single year it costs these persons who use it as much as would be required to make a good road of it. Now, supposing that with the bad road it costs the farmer \$100 to market his produce, it will readily be seen that if he could by spending \$50 make it a good road so that it would only cost him \$50 to market his produce, it would pay him to do so, for at the end of the year he would not be out any more than if he had not worked the road, and he would have a good road for the next year's marketing. The objection may be raised that \$50 spent on a road would not do it much good, but if every one who uses the road would do his share it would be possible to make it a good road.

Roads may be likened to a farmer's implements or a carpenter's tools. They are part of the instruments by the aid of which the different parts of a country carry on communication with each other and exchange their products. Now, in every community there is a given amount of this bus-

iness to be done, and it costs a given amount of time, labor and money. And the whole question narrows down to this: Can a community, by investing a certain amount in roads, so cheapen the cost of transportation as to make anything on the investment? The farmer finds that it pays him to have good farming implements, although they cost more than poor ones. The mechanic finds that it pays to have good tools, for he can do more and better work at less cost than he can with poor ones. In a like manner it will pay any community to have good roads, although their first cost is greater than that of poor ones, and they may cost more to keep them in repair. But the community might go too far and invest too much in roads, and then it would lose instead of gain. For illustration: Suppose that in Riley county, with the roads in the present condition, it costs in time, labor and money x dollars per year to do all the hauling and traveling. Now if, at the beginning say of a term of five years, the county would spend one-half x in improving the roads, and then should each year spend one-fifth x in repairs, and should by so doing improve the roads to such an extent that the traffic for the five years would only cost three x instead of five x , the county would be the gainer by the difference between the interest on the extra amount spent and one-half x plus the difference between a good and a bad road. But the community might spend more on the road than would be balanced by the diminished cost of traffic, just as a farmer who, instead of getting an ordinary mowing machine, should buy at three or four times the usual cost one built of the finest material and finished in the highest style of the mechanical art, would lose money in the transaction. It is true the machine would last longer and do better work than an ordinary one, but this would not balance the increased cost.

However, judging from the condition of the roads in this vicinity at the present time (May 22d, 1877), we think that considerable money can yet be spent upon them before the limit is reached at which further investment will not be profitable.

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the INDUSTRIALIST by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

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KANSAS STATE AGRICULTURAL COLLEGE.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

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THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JULY 7, 1877.

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Man the Arbiter of his own Destiny.

[An oration delivered by Marion F. Leasure, a member of the graduating class of the Kansas State Agricultural College, Tuesday evening, May 22d, 1877.]

Man is a free moral agent. His nature not only asserts liberty, but his conduct proves it. As he follows the various vocations of life, he has no consciousness of a controlling restraint upon his actions. His perceptions suggest to him a certain course; his reason acts upon these suggestions and decides whether they are wise or unwise. This must be the case if we consider man an accountable being; for if he is controlled by some foreign power he is not responsible for acts, and at once becomes entirely destitute of virtue and vice. We may conceive of a human being endowed with intellect and desires, yet incapable of exercising these powers. But this is not man's condition. God has endowed him with judgment and will, and has given him conscience to guide him in their use. Now, with all these heavenly-created powers, is he to be only as some have conceived,—the creature of circumstances, blown about by every tempest of misfortune, tossed upon every wave of error? Is this the destiny of a being so noble in reason, in intellect so like a god? Behold his endowments. They are such as will refine and ennoble him if he obeys their dictates. As the guide-board directs the traveler in pursuing his journey, so reason will point out the follies in exploded systems of ethics and false speculations in philosophy. Conscience with an unerring finger will indicate the right and the truth. Love of the truth induces most men to reason correctly. For since in most cases he reasons for his own benefit, there are no inducements for him to reason falsely. Even if he has lost all regard for others, he will be at least honest with himself, and to do this he is compelled to reason correctly. Most men do recognize truth as the basis of honesty; many have based their reasoning upon this fact in deducing conclusions, and in their zeal to sustain these deductions have forfeited riches and positions of honor, have bravely gone forth to the bloody battle-field, or have deliberately sacrificed their precious lives at the fiery stake.

Although the will is free, we find that it acts in harmony with natural laws. Not only can power be predicated of the mind as a whole, but it can be predicated of every part of the mind. We universally speak of the power of memory, the power of imagination, or the power of reason. Thus our very language proves both what we think and what we know of the mind. Now, if you can assert that you have the power of remembering and reasoning, can you not

with equal propriety assert the power of the will? We cannot account for the phenomena of human nature unless we suppose the will to act independently of any extraneous force, to such a degree as to entirely establish its own definite agency.

Does not the world's history furnish innumerable instances of persons in whom the power and vigor of the will appeared to be predominant? Their character can only be explained on the ground that they were free agents, and had conquered circumstances. It was this grand will power that elevated Geo. Stephenson from the humble occupation of coal-picker to that of one of the most noted engineers the world has ever known. When but a child we find him constructing engines of clay, for want of more appropriate material. Next we see him employed in the labors of the farm. He is then promoted to the position of coal-picker at the mines. Next he becomes gin-driver, then assistant fireman. Finally, he is appointed engine-man. Upon becoming engine-wright, he makes greater progress in inventing locomotives than any other man has yet made. But while his whole mind was given to the development of machinery, his attention was suddenly called to the terrible explosions of fire-damp, which had become so frequent in the colliery as to cause the loss of many lives and terrible suffering to the people. Devoting his attention to these frightful accidents and the means by which they might be prevented, we find him making experiments with fire-damp, and finally inventing a miner's lamp which he believes can be used in the mines with safety; and now we have an example of the power of the human will. Stephenson, determined to test the perfection of his lamp, enters one of the most explosive mines at the dark and solemn hour of midnight. The air in the mine is so exceedingly foul that if a lighted candle or ordinary lamp should be introduced an explosion would immediately follow. But having lit his lamp he boldly proceeds towards the most dangerous part of the mine. This is indeed a critical moment, the danger being such as could only be confronted by the stoutest heart. Stephenson, advancing alone with his yet untried lamp into the depths of these subterranean regions, calmly venturing his life in testing the means by which the lives of many might be saved, and by disarming death in those fatal caverns, presents an example of intrepid nerve and heroic courage more noble even than that which in the excitement of battle, or the impetuosity of the charge, carries men up to the cannon's mouth. Advancing to a place in the mine where the light carbureted hydrogen is issuing forth at such a rate as to produce a sharp, hissing noise, he holds the lamp firmly out in the full current of the blower and within a few inches of its mouth. The flame at first increases, then with a slight flickering motion goes out. The safety lamp has been proved a success, and Stephenson's name is made immortal!

Within the bounds of our own fair land we have many examples which exhibit the pro-

found power wielded by man through the agency of his will. One of the most striking characters perhaps is that of George Washington, the sage, the statesman and the warrior, who with a few isolated colonies conquered a nation whose power for many years had held a large portion of the world in subjection. From Frederick the Great he receives a sword bearing the inscription, "From the world's oldest General to its best." Millions look upon him as the father of American liberty, and finally some of his friends propose to make him king. But he spurns this strongest of temptations and rebukes his friends in return, showing that manly will power which he so abundantly exhibited in former years, and which continued to be a characteristic of the man until the day of his death. Again, in the backwoods of Kentucky might once have been seen the form of a poor farmer's boy, lying upon a puncheon floor and by the light of a pine knot learning to read. He may next be seen trudging along behind his father's wagon as he emigrates to Illinois. Again we find him studying English grammar and surveying without an instructor. Now we find him reading law from borrowed books, beneath the shades of an isolated tree. In the course of time his voice is heard in the legislature. In the fierce arena of politics he vanquishes the most noted politicians and orators of America, and in 1860 is elected to the highest position within the gift of American people. Do not these imperishable examples furnish us ample proof of the power of man's will? Are they not sufficient to incite the mind of the young aspirant to action? They show that man is not the dependent creature of circumstances, but that through the agency of those powers bestowed upon him by beneficent heaven, he subjects circumstances to his bidding and compels them to become subservient to his purposes.

Most men possess these blessings equally. If one becomes more eminent in life than another, it is simply the result of his sound judgment, his perseverance and industry. For it matters not if your ancestors be those who wear golden crowns upon their heads, or those who walk the humblest paths of life; I care not if you were born within the most magnificent palace, or in the loathsome and filthy hovel; it matters not if you be daily surrounded by countless riches, or by oppressive poverty,—that God-given power, THE WILL, will enable you to surmount every difficulty, and in spite of what appears to be your personal oppressor you may triumph at last, and by your own example prove to man and the world that you are the arbiter of your own destiny.

Corn is reported six feet high in Montgomery county.

Harvesting has commenced in Wabaunsee county, and the farmers say that wheat never looked better.

The county clerk of Bourbon county paid bounty on 1,322 rabbit scalps, at five cents each, in one day.

THE INDUSTRIALIST.

SATURDAY, JULY 7, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Fall Term of the Agricultural College will open Thursday, August 23d, and close Thursday, December 20th, 1877.

Elementary Science for the Common Schools.

[An address delivered before the Kansas State Teachers' Association at Emporia June 28th, 1877, by Prof. W. K. Kedzie.]

Upon accepting the invitation of your Executive Committee to be present at this annual gathering of the teachers of Kansas, it had seemed to me that I could not, perhaps, appear before you more acceptably than in a few moment's discussion of a question, just now very prominent in the educational world, and one which seems also to be awakening unusual interest among the more progressive educators of Kansas; the question of elementary scientific studies in the curriculum of our common schools. To discuss this very interesting question in an intelligent manner, we must at the outset acquaint ourselves with its relation to the great scheme of popular education in this country, and a little attentive study and examination will present it to us in its true light, as the last act of a great and far-reaching revolution, which in the last twenty-five years has permeated every department of educational life in the United States. It is the closing scene of a most instructive educational drama, the struggle of science for a recognition, and for its proper place as an essential factor in every plan of popular education. When we study the history of the struggle we cease to be surprised at the long years which have been consumed in attaining its objects; at the slowness with which this educational reform has progressed, or at the fact that a very important part of its work still remains to be accomplished.

It has been a struggle from above downward; from the leading Universities, colleges and other higher educational institutions of our country, by degrees down through those of lower grade, until it stands at last before the threshold of the common school. The story of this revolution reaches backward to that era in educational history when all our books were written, not in English, for that was believed to be but an evanescent tongue, which in a few centuries would vanish from the earth; but in dead Latin, which at that time was held to be the world's general repository of all that was of permanent and lasting value in knowledge or research. From very necessity the well educated man, in whatever department of

learning, must be thoroughly versed in every phase of the literature of the dead languages, which, with abstract mathematics, thus formed the bulk of every course of study. But long after this absurd fashion ceased, and men began to entrust the fruits of their studies to living English, Latin and Greek continued to hold their supreme position, not so much for the knowledge they furnished as for the acute mental discipline which their acquisition afforded to the mind of the student. But just at this juncture a new era opened; an era which marked the decadence of the reign of *words* as educational forms, and introduced the epoch of *ideas*; when the study of languages became a *means*, not an *end*; valuable for its own sake to be sure, but far more for the truth which it brought with it; for the knowledge which it enabled us to record, classify and convey. For now began an era of startling scientific activity. Discovery made gigantic strides in every field; science, which had long crept forward at a snail like pace, under this fresh impetus began, as it were, a new existence of upgrowth and progress. New departments of research and study became speedily revealed, and in every country new men of note arose to eminence in the scientific world, who added new energy to this rising current of progress.

Very naturally the guardians of the older and well-established educational institutions soon found these new departments of learning knocking loudly and emphatically without their doors demanding admittance, recognition and a place in their educational system; while on the other hand from within the university halls arose the voices of the eager students re-echoing this just demand with no uncertain sound. Very naturally too many of the old school guardians resisted vigorously these encroachments of what seemed to them a Godless and unsanctified race of scientific enthusiasts. In their student days a knowledge of more of these new branches of study was deemed necessary to round out the accomplishments of a man of education. In fact in their ears the words scientific and atheistic were little better than synonymous. A naturalist to them was "natural" in every sense of that term; in other words, they regarded him as little better than a fool; and as for a chemist, a botanist or a geologist, he was looked upon as a queer, eccentric sort of a genius; an odd sheep in the family, who, from some mental or moral propensity, refused to rest satisfied with the few brief glimpses of the wilderness of natural phenomena around him, which the ordinary course of study afforded. But to the honor of the leading American colleges, be it said that they promptly welcomed these new departments of study, and accorded them their due prominence in their courses of instruction. The instructive lesson for years in progress upon the

other side of the Atlantic, in which Oxford and Cambridge, in their dogged adherence to old ideas to the exclusion of new, have ceased to become centers of mental activity, and have allowed the balance of intellectual power to swing across the channel into the hands of the progressive German universities of Berlin and Leipsic, has been a lesson not lost upon those who have had the educational interests of our own country in charge. The introduction of the Sheffield scientific department into Yale, and the Lawrence scientific school into Harvard were noble beginnings in meeting the demands of the new education; an example speedily followed by the Universities of Michigan, Cornell and others, until now every leading institution in this country, with any presumption to progress, has placed its courses in scientific studies upon equal if not superior terms to that of any other department. From these, the academies, and in most Eastern States, the high schools have speedily followed suit by the introduction of the various branches of elementary science, until finally, as the last step in the triumphal march of the new education, the query faces us, shall the common school recognize the importance to the masses, of a knowledge of the forces and laws governing the phenomena of the natural world around them, by the admission of short courses in the elementary sciences into its curriculum of study? And when we consider the subject in its true aspect as a part of the great scheme of popular scientific education in our country, the ultimate answer of this query can hardly be a matter of doubt or question.

I am very well aware that there has recently been in this State much discussion reflecting very seriously upon the wisdom of the course and methods of instruction in our common schools. And while, as a teacher, no one can resent more keenly than I, any chaotic and revolutionary criticism which aims to tear down rather than build up; to overturn in an instant well-established methods, without substituting something of equal value, for that so freely condemned to destruction. I am convinced that, as intelligent educators, we cannot deny that some truth lurks in the general charge of these critics; that our common school system has not kept pace with the marked advancement in the higher departments of education in our country. The college, the academy and the high school have each felt themselves compelled to give place to the important branches of science, advanced or elementary, as the needs of their pupils demanded, even at the cost of curtailing other departments of study. But, on the other hand, as regards elementary science, the typical common school has remained conservative and unyielding.

[Continued next week.]

THE INDUSTRIALIST.

SATURDAY, JULY 7, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending July 5th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	29	90°	60°	82°	28.49
Saturday.....	30	85	59	75	28.71
Sunday.....	1	80	60	79	28.57
Monday.....	2	83	67	76	28.70
Tuesday.....	3	88	70	81	28.67
Wednesday.....	4	93	71	84	28.79
Thursday.....	5	96	70	86	28.80

Average temperature for the week, 80°.82.

Range of temperature for the week, 37°.

Rainfall for the week, .62 of an inch.

Harvest has commenced on the College farm.

Albert Todd is expected home about the first of August.

The contractors are at work on the Manhattan school building.

A special meeting of the Board of Regents is called for the tenth inst.

One of the stables, at Fort Riley, was struck by lightning and consumed, last week.

Prof. J. H. Lee is to open a preparatory school in Manhattan. Success to the enterprise.

The *Nationalist* says that the jolliest crowd that got on board the excursion train at Manhattan was A. A. Stewart.

The excursion train left for Denver Monday evening with two hundred and seventy-five passengers, badly crowded. "Little rest for the weary."

The Horticultural department is still destroying weeds. The exceedingly wet season so far, has rendered it necessary to work the trees later than is usually desirable.

Jasper Howard, who for some months past has been teaching school at Wakarusa, Shawnee county, returned to Manhattan last week, where he will spend his summer vacation.

The old patriotic 4th was thoroughly disintegrated in Riley county; not a little of the patriotism gone to the mountains. A children's temperance celebration; some intemperate ones on a small scale; neighborhood celebrations; and, last but not least, our editorial excursion to the woods, which was a decided success.

In its account of the editorial excursion the Junction City *Tribune* speaks as follows of the actions of President Anderson and wife when the excursion train was descending the Clear Creek Canyon:

We have described the terrible madness of the boiling floods of Clear Creek, fifty to eighty feet across, and intimated the threatening aspect of the rugged, overhanging walls and crags; yet, in the face of these dangers, and in spite of the uncertain motions of the rapidly descending train, Rev. John A. Anderson and his estimable lady sat, during the trip, outside on the rear platform of the hindmost car, in order to observe more perfectly the grandeur of the passing panorama. Such an exercise of nerve and strength of muscle, combined with a high and refined appreciation of the beautiful in nature, are worthy of especial mention.

UNDER A TREE, (ten miles west of Lexington, Missouri), July 4th, 1877.

Editor Industrialist:—Hurrah for Independence day! It is a beautiful morning. Mrs. P. is cooking biscuit, ham, eggs and coffee for breakfast, and the boys are shooting fire-crackers. All well and happy. It has rained every day since we started, and, Sunday morning, at the old Shawnee Mission, one and one-half miles west of the State line, it came down in torrents, but the old ark proves a safe retreat in the strongest floods, keeping us perfectly dry; and it has not been stuck in any of the deep mud-holes, but it does take the meat off from Dick and Charley to pull it through them. The roads have been better, on an average, thus far in Missouri than they were in Kansas. I think there has been hardly as much rain the last month here as there. We passed over some beautiful country yesterday from Independence. The corn beats that about Manhattan all to pieces, and the wheat which is just being harvested is splendid. All crops seem to be good. I think this must be one of the best parts of the State for farming. Near Olathe, Kansas, we saw several quite large fields of flax growing which appeared to be doing well.

We got up a big scare in camp last night. Watch, by his unusual bark, made us believe that some one was trying to steal our horses, but after a careful reconnaissance it was found to be a certain very long-eared visitor, with which the dog was not familiar. We shall probably celebrate to-day by passing through the city made memorable by the turning back, on the river, of Kansas immigrants in 56, and the surrender of General Mulligan to General Price in 61. The Mrs. calls to breakfast, more anon. J. E. PLATT.

Students' Column.

Our young friend, Corwin M. Reed, of St. Clere, Pottawatomie county, wrote us a letter a few days ago in which he speaks as follows regarding "matters and things" at his home:

"We are having delightful weather now, and have had for a week or two. Everything is looking splendid. Corn as high in places as a horse's back, and some plowed the last time. There are not many large crops of wheat, but what there are look nicely. The peach crop will be almost a failure in this part of the country, on account of their all falling off. I have been hard at work ever since I arrived home. The wet weather kept us back a while, but it is dry enough now, and the weeds have to suffer and the corn grow. I think I like the plow about as well as the composing-stick."

WETMORE, Kas., June 23d, 1877.

Editor Industrialist:—How would you like to know what has become of "De"? Without waiting for an answer to this question, I shall venture to tell you a little about said individual. I reached home the next day after leaving Manhattan without the least interference by high water, and found everything looking well; cattle herd steadily on the increase, and young pigs innumerable. I found but few hoppers here, but all that are here seem to be congregated in the "old gent's" garden, which, when I arrived, was really his pride, but now looks a little dilapidated. I almost killed myself digging a ditch on one side of the garden, and then it proved to be of no value, as the hoppers would jump over or crawl up the side. The only way we succeeded in killing them, to any extent, was by boring holes in different parts with a post-auger, and then driving them into these and covering them with some fifty pounds of dirt. None were ever known to dig out, and if they did I think their teeth would be nearly worn out, so there would be no danger of their eating any more. We had selected a field for the purpose of seeding it to millet, but deferred plowing it until the hoppers had left it, as a great many hatched there. Two days ago we finished plowing, and the man said he turned out eggs by the bushel, and that they were hatching very fast. It seems that the rain had so packed the ground that they could not hatch, and all they wanted was to be stirred up. We will be obliged now to wait until this crop has disappeared before seeding. A neighbor of ours lost a large field of millet by these pests. He intends seeding again if they do not stay too long.

What a backward year this has been for farmers! We planted five acres of corn on the 19th of this month. It seems almost like waste labor, but if we have rain enough it will make some grain. Corn that was planted early has grown very slowly, owing to the amount of cold rains. It has grown more in the last week than during all the time before. We are breaking considerable prairie this year; will have broken seventy-five acres when the season closes if nothing happens more than now expected.

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THE INDUSTRIALIST.

SATURDAY, JULY 7, 1877.

A Word to Farmers' Sons.

Those who prize the freedom peculiar to a life in the country, and also the security of a steady occupation, the pursuit of farming in this country offers great advantages. Every talent which the most gifted young man possesses may be exercised in connection with agriculture, and the more finished his education the better will be his chances of gaining culture from his surroundings and acquiring influence with his neighbors.

Already a large portion of the permanent wealth of our nation is in the hands of farmers, and every facility is offered by our laws for any one who wishes to secure a farm for himself. The introduction of machinery for almost all kinds of farm work, the multiplication of means of transportation, and the great demand in cities and towns for the best farm produce, makes it necessary for a man to know the cost of each crop he raises that he may devote his time and labor to that which pays the highest per cent on capital. Hundreds of farmers annually dispose of their wheat, potatoes, apples, corn, cattle or horses at the market price, without knowing the actual cost of production of any crop. As a natural consequence they go on year after year in the same way; while by knowing exactly the cost of raising a bushel of wheat or a ton of hay or a pound of wool, they could soon decide where their profits lay, and discard the crops which experience proved to bring them only loss.

Now, to know the precise cost of any farm product, it is as necessary that a farmer should keep accurate accounts as for a merchant or manufacturer. To no class of business men is a practical knowledge of book-keeping more valuable than to our farmers. Because many have succeeded without it in the past does not alter the case. A higher standard is before the farmers now. Their produce must be of good quality to meet with ready sale, and to insure that success now demands that capital be invested in good buildings, machinery and improved kinds of grain, fruit and live stock.

They need to know the exact returns yielded by all such investments, which can be ascertained only from a complete and accurate system of accounts. Let us impress upon young farmers, stock dealers, and fruit-growers the vast benefit you would realize from a course of business training. Better give a year of your time now to this study; you would be more than repaid for your time and money in five years. Surely it is time the leading industry of our State and country was conducted on the same principles that control less important interests.—*Commercial Journal*.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

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THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JULY 14, 1877.

No. 13.

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Elementary Science for the Common Schools.

[An address delivered before the Kansas State Teachers' Association at Emporia, June 28th, 1877, by Prof. W. K. Kedzie.]

[Concluded from last week.]

None of us I think can fail to admit, when we consider the relative importance of studies, that the course of study in the average common school is not only unwisely narrow and restricted in its scope, but that far too much time is devoted to endless repetition in studies of no more importance to the average man than others which are utterly and entirely neglected. We all believe that a knowledge of numbers sufficient for the ordinary commercial transactions of life; a knowledge of words, their relations and their uses, sufficient to enable us to talk and write good English; and a knowledge of the general features of the earth's surface and the distribution of governments thereon, so that we may know something of the nature and resources of our own country and of those around us,—are the first absolute and essential requisites for every intelligent man and woman. But how indefinitely and immeasurably beyond the usual, or even the extraordinary, demands of every-day life is the arithmetic, grammar and geography taught in our schools allowed to extend itself; so that our arithmetics have become great puzzle books, with problems to which no mercantile operations on the face of the earth can furnish a parallel; our grammars a dry complication of what should be one of the most simple and attractive of studies; our geographies loaded down with the physical and political details of obscure and unimportant regions, to the neglect of that general study of the earth's features and resources which is the cream of natural science.

Now, to all this great expenditure of time in this narrow field of study, no reasonable man could offer any objection did it not involve the complete neglect and ignorance of other subjects of study of equal or greater importance in every-day life. It has also created an utterly false and absurd standard of what is to be regarded as important knowledge and what as pardonable ignorance. The young school graduate, who would feel himself overwhelmed with shame and reproach should he fail in solving some problem in cube root or alligation, or in bounding some obscure province whose geographical outlines are never two years alike, will confess with perfect self-possession his complete ignorance of the course of the blood in his own body, of the composition of the air he breathes, of the food he eats and of the water he drinks; of the nature of sunlight, or of the cause of the rainbow

above him; of the nature and origin of the soil of his father's farm, or of the stone of which his house is built,—simply because by inference he has been taught to look upon all these things as matters about which ordinary people may freely confess their ignorance with no feelings of regret or self-reproach. And yet, from the simple standpoint of hard, practical utility, what can be more important for every-day use than a knowledge of these every-day matters which are constantly rubbing against us at every moment of our lives. And when we consider what an enormous proportion of our rising generation will owe to the common school alone all they do receive as an education, does it seem either right or just to shut them out of all knowledge of these fascinating fields, in which the least elementary instruction would add so much to their happiness and usefulness in the future as men and women. In addition to all this, from my own experience as a student and as a teacher, I am convinced that the introduction of a few of these more important branches in elementary science will lighten rather than increase the burdens of the teachers, from the increased interest and enthusiasm they will inspire in the minds of the children themselves. There is no boy or girl living who will not find some one of these studies just to their taste, and from the love of study which it will inspire, other and less agreeable studies will shine under a new light to their eyes. I doubt not there are many in this room this morning who could testify by the memories of their own lives to the truth of this which I speak.

I can never discuss this subject without there rising up before my mind's eye the picture of my own boyhood; of my first school days in a little country village, and in a genuine common country school with the most orthodox and antiquated course of study imaginable; of the blind, plodding, hopeless, aimless struggle, over and over again, through the mazes of grammar, geography and arithmetic, whose stupendous principles it was my own and my teacher's opinion could never be hammered into my sluggish brain; of the absurd lessons in spelling long polysyllabic words which, if they ever had any meaning, lost it under such circumstances, and which, as in all my reading and study I have never encountered since, I firmly believe were coined for the simple purpose of torture. But soon there came a change. Removal to a new home, under new and more enlightened surroundings, afforded the opportunity, in connection with other school studies, of a brief insight into a few of the wonders of natural science; when, behold what a transformation! Under the magic touch of this new impulse there seemed to unfold before me a new and a noble incentive to study and application, which extended not alone to these fascinating studies, but which by its reflex influence added a new and a keener zest for every other branch of study which it became my duty to master; until at last study and the student's life became,

of itself, for its own sake, its own exceeding great reward. Years afterward, when the work of the school student became exchanged for the duties of the common school-teacher, I remembered these little experiences in my own school-day life; and some of the happiest hours in my country school-teaching career I now remember in connection with these little classes in elementary science, or upon Friday afternoons in the performance of experiments and the discussion of simple principles before the entire school. Nothing could be more encouraging and inspiring to the teacher than the interest which such instruction, given for the most part orally, excited in the mind of every pupil in that school-room; with what wonder and astonishment the simplest experiments and principles in chemistry and physics were received, especially when they served to explain some very familiar occurrence in every-day life, such as those connected with light and color, sound, the echo, atmospheric pressure, etc. I shall never forget, for example, the perfect revelation, even to the older pupils, was the explanation of the pressure of the atmosphere as the power which held the paper upon the mouth of an inverted tumbler of water, and which rendered so impossible the lifting of a little piece of cardboard with a pin thrust through it from the end of a common spool with a blast of air from the lungs thrown from below upward. The interest excited by even so brief an insight into some of these to them new principles extended its beneficial influence over every study pursued within that room.

My present field of labor at the Agricultural College affords me especial facilities for realizing some of the advantages which I believe would follow the introduction of elementary studies in science into our own public schools. A large proportion of our pupils come to us directly from the common schools of this State. Their first acquaintance with physical science is during the second year of their course, when they enter my laboratory as students in elementary physics, popularly known as natural philosophy, a study especially adapted to the common schools; and I know of nothing more interesting or instructive than to observe the manner in which a careless, heedless, indifferent student, whose whole range of ideas has been circumscribed by what is known as the "common branches," will, under the influence of these new fields of study thus opened to his view, seem to discover within himself new capabilities and new incentives for effort and enthusiasm in study, and who from henceforth is a new creature. Many of these students going back to their homes have been called upon to take charge of schools of their own; and have repeatedly written me asking advice and assistance in giving some instruction in elementary scientific branches in their own schools, which, as the beginning of a good work, I have done my utmost to encourage.

Leaving the consideration of the various branches of natural science to such capable

authority as Prof. Snow, of the University, whose views upon this subject are no less pronounced than my own, I will briefly suggest what I believe may be accomplished in the departments of physical and experimental science in the common school. And at the outset we must rid ourselves of the idea that in teaching the elements of a science we are to teach any diluted preparation of that science. By the elements of a science let me be understood as meaning the *essentials* of that science, its vital, fundamental principles, tersely expressed and simply illustrated; very much upon the same principle as Prof Wm. D. Whitney's superb little book, in another field, called, "The Essentials of English Grammar." Hence, any one at all familiar with the condition of our popular scientific books need not be told that we need text-books upon these various sciences adapted to our especial purpose, and designed for use in the common schools alone. Our elementary text-books now in use among higher schools are quite unfitted for our purpose, because they are either condensations or dilutions of other works,—are too bulky, requiring too much time to complete them, and are filled with apparatus and experiments utterly beyond the range of the facilities of a common school-room. A book with specific objects of an ordinary school-room in view is what we want; compact, terse and simple in its statements, and yet attractive in its style, with experiments simple and easily performed, while perfectly illustrating the principles in view; books which shall be no more expensive than ordinary readers or arithmetics. We want, for example, a chemistry which shall tell the teacher how he can fit up his own laboratory upon a table beside his desk; how he can make a pneumatic cistern out of a wash-tub, gas-bags out of bladders, gas jars out of bottles and tea plates; how he can manufacture oxygen with an old gun barrel, hydrogen from a handful of shingle nails, carbonic acid from a piece of limestone picked up in the street; how he can make a spirit-lamp which will cost him but fifteen cents, a funnel which will cost him ten cents, and a first-rate blow-pipe which will cost him one cent. In other words, how, at the least expense and from the resources of an ordinary country village, a course in chemistry may be conducted which shall illustrate every essential principle simply and fully in the space of a single winter's term. Again, under the head of elementary physics or natural philosophy, always a fascinating study for children, we need a book which shall, with the fewest possible pieces of apparatus, aim to illustrate every vitally important principle; a book which shall constantly appeal to the student's mechanical ingenuity, showing him how, with a little skillful exercise with his jack-knife, a hand-saw and a hammer and nails, with a few cents' expenditure, he can construct little home-made pieces of apparatus, just as valuable for purposes of illustration as costly importations from London or Paris.

Now, with such books as these in our hands, short courses in elementary science may be given with little or no addition to the expenses of the school year; and in which the slight additional labor required on the part of the teacher in preparation will be an hundred-fold repaid in the increased interest and enthusiasm on the part of the school children, which we may count upon as an absolute certainty.

In other departments of physical science,

we are favored in Kansas with especial advantages. Nature has placed at our disposal all the apparatus necessary for a knowledge of the geology and mineralogy of our State by giving us geological formations exceptionally simple, interesting and easily comprehended, and filled with the remains of the teeming animal and vegetable life of past ages. How interesting and instructive a cabinet might be gathered from any neighborhood in Kansas by encouraging the children to gather and contribute for study whatever they find in the rocks or soil around their own homes. And in connection with our great resources as an agricultural State, how valuable the lessons which in this connection might be conveyed, showing the nature and origin of the soils of our farms.

But like every good and desirable consummation, it were worse than useless for us to shut our eyes to the fact that this work is one encompassed with many and grave difficulties, many of them such as a teacher only can appreciate. Such are lack of the needed time in the school-day, lack of system so necessary in constructing courses in studies of this character, lack of money, irregularity of attendance of the school children themselves, and want of sympathy, if not utter indifference, too often encountered among the parents and patrons of the school. Now, in overcoming these obstacles, and in pushing this good work, haste must be made slowly. We must be satisfied with small beginnings, introducing first a single study, and then gradually broadening the sphere of instruction. We must commence at the foundation by acknowledging instruction in elementary scientific branches as part of the legitimate work of the common school, and provide a place for it accordingly; and of course this involves a curtailing of the time now exclusively devoted to an excessively detailed study of a few branches only. To unwisely attempt, without careful provision and preparation, to crowd all of these scientific studies at one time upon the already overcrowded school-room, is only to ensure a most disastrous failure for the whole enterprise. We must bear in mind that it is the *essentials* of every study which must rank first in importance to the ordinary student of the common school, though at the same time remembering that there is not a single study which if fully considered might not occupy any one of us for a life-time. What is above all needed is *system* in the work of the school-room, for system is itself the great economizer of time; and when to this we can add complete uniformity of text-books throughout, no trouble need be apprehended in finding time for the work proposed.

As already intimated, the difficulty of limited means upon the part of our people need prove no insuperable obstacle, for with the right books, a few dollars and a little ingenuity will accomplish every object. And, finally, when we have succeeded in rousing that dormant curiosity and enthusiasm upon these subjects of study which is a natural part of every child's organization, we shall find irregularity of attendance and indifference of parents to be difficulties which will vanish in a breath. There is, however, another little obstacle which may have suggested itself to the minds of many teachers present; namely, that the ordinary teacher's acquaintance with most of these branches of elementary science is of a theoretical rather than a practical nature, which unfits him for meeting those little exigencies

of the school-room which arise from limited means and little apparatus.

Now, as this is a matter in which the whole State is interested, why should not the facilities of the State be turned to our advantage? I see no reason why, for six weeks during the summer vacation, the chemical and physical laboratories of the State Agricultural College, at Manhattan, and of the University, at Lawrence, should not be open under their respective professors in charge to those teachers of the State who may desire, by practical study and by work with their own hands, to add to their stock of skill as instructors and manipulators in the school-room. The moderate expense attending such a course should place it within the means of every teacher. You may be sure that when you make the demand the doors cannot long remain closed to you. What has already been accomplished in elementary instruction in various schools through the State, whose names I need not mention here, shows what determined effort may achieve. Of this we may rest assured, the good work will go on, if not with us then without us. Throughout our land educators are everywhere awakening to the importance of this theme, and will it not in the end be far pleasanter for us to be numbered with the van than in the rear? And, above all, is it not true that here with us, in thus lifting to a higher and nobler plane the standard of popular intelligence, we shall the sooner realize our hopes and our aspirations as a commonwealth?

THE INDUSTRIALIST.

SATURDAY, JULY 14, 1877.

THE Board of Regents at its recent meeting modified the courses of study as follows:

FARMER'S COURSE.

FIRST YEAR.

Full Term.—1. Drill in English; 2. Drill in Arithmetic; 3. Industrial Drawing.

Spring Term.—4. English Structure; 5. Advanced Arithmetic, Book-keeping; 6. U. S. History, Industrial Drawing.

SECOND YEAR.

Full Term.—1. Physiology; 2. Rhetoric; 3. Algebra.

Spring Term.—4. Practical Agriculture (elementary); 5. Physics; 6. Industrial Drawing.

THIRD YEAR.

Full Term.—1. Botany and Entomology; 2. Inorganic Chemistry; 3. Practical Geometry.

Spring Term.—4. Practical Horticulture, Landscape Gardening; 5. Organic and Analytical Chemistry; 6. Practical Surveying.

FOURTH YEAR.

Full Term.—1. Practical Agriculture (advanced); 2. Geology, Mineralogy; 3. Political Economy and Practical Law.

Spring Term.—4. Zoology; 5. Agricultural Chemistry, Meteorology; 6. Logic.

WOMAN'S COURSE.

FIRST YEAR.

Full Term.—1. Drill in English; 2. Drill in Arithmetic; 3. Industrial Drawing.

Spring Term.—4. English Structure; 5. Drill in Arithmetic, Book-keeping; 6. U. S. History, Drawing.

SECOND YEAR.

Full Term.—1. Physiology; 2. Rhetoric; 3. Algebra.

Spring Term.—4. English Literature; 5. Physics; 6. Industrial Drawing.

THIRD YEAR.

Full Term.—1. Botany and Entomology; 2. Inorganic Chemistry; 3. Industrial Drawing.

Spring Term.—4. Practical Horticulture, Landscape Gardening; 5. Organic and Household Chemistry; 6. Household Economy.

FOURTH YEAR.

Full Term.—1. Farm Economy, Special Hygiene; 2. Geology, Mineralogy; 3. Political Economy and Practical Law.

Spring Term.—4. Zoology; 5. Meteorology, Physical Geography; 6. Logic.

THE INDUSTRIALIST.

SATURDAY, JULY 14, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending July 13th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Inches of Rainfall.
	Max.	Min.	Mean.			
Saturday.....	7	100	71°	88°	50	28.74
Sunday.....	8	95	63	85	25	28.83
Monday.....	9	83	60	75	25	28.86
Tuesday.....	10	85	61	77	75	28.85
Wednesday.....	11	83	60	78		88.87
Thursday.....	12	88	63	79	25	28.90
Friday.....	13	89	65	78	75	28.81

Average temperature for the week, 80° 39.

Range of temperature for the week, 40°.

Rainfall for the week, 1.15 inches.

President Anderson and wife returned from the mountains last Tuesday. They will remain in Junction City until College opens.

The base-ball game played on the 4th by the "Fats" and the "Leans" of Manhattan, resulted in favor of the "Leans," the score standing 18 to 14.

The Board of Regents met last Tuesday and adjourned Thursday. All the members were present, and some important business was transacted.

The diminutiveness of the INDUSTRIALIST and the quantity of other reading matter prevents us from giving a very lengthy report of our trip to Colorado.

Albert Todd has been commissioned 2d Lieutenant of Company E, First Artillery, stationed at Fort Adams, Rhode Island. He will report for duty in the early part of November.

The maple worms are injuring a great many trees in Manhattan and vicinity. Something should be done to check the ravages of this pest, else all our beautiful shade trees will be destroyed.

Mr. John Carpenter, of Johnston, Vermont, a brother of Mrs. Gale, arrived in Manhattan this week. He is in search of a new home, and if suited with this portion of the State will settle here permanently.

We saw Byron Pound at Boulder, Colorado, last week. He has been engaged in the city express business, but has sold out and accepted the position of superintendent of teams in the construction of a railroad to Cheyenne. Byron looks and acts as natural as ever, and we are glad he is prospering.

We learn from the *Nationalist* that L. E. Humphrey and J. S. Griffing delivered orations at a 4th of July celebration in the northwest part of the county. Their subjects were respectively: "The Kind of Men we Need," and "The Past, Present and Future." The *Nationalist* correspondent says the orations were well delivered and well received by the patriotic audience.

We have just received from the Department of the Interior a new "map of the United States and Territories, showing the extent of public surveys, Indian and military reservations, land grant railroads, railroads, canals, and other details, compiled from the official surveys of the General Land Office, and other authentic sources, under the

direction of J. A. Williamson, Commissioner. 1876." In size it is about 4½x7 feet, contains all desirable information, and consequently is a very valuable map.

Will Burnham writes us as follows about his examination at West Point:

"I have passed the examination, and am now in camp 'tenting' with a fellow 'brute' (as they are called) from Kentucky. We were two and a half days being examined. They say it was the hardest examination that has been held for years. Out of 128 candidates, only 55 entered. I don't like camp life very much, especially when we have to be on drill and police duty half the time."

We are sincerely glad that Will has passed the examination, and we hope he will successfully go through the four years of hard study before him and graduate a man of whom his country may be proud.

A late number of the *Kansas Farmer* makes the following remarks about Prof. Kedzie's text-book on Agricultural Geology:

It is one more evidence of Kansas progression, that, as the preface states, this book has been prepared "at the very urgent solicitation of the superintendent of public instruction, and that of other prominent educational workers." It seems to us this small manual meets a want long felt in common schools, and that to teachers and students it must prove invaluable. Special attention is given the geology, mineral resources and farm soils of this State. At the Manhattan Agricultural College we are now more honestly and faithfully testing the problem of industrial education than at any other institution in the United States, and Prof. Kedzie is doing valuable service to all our schools in proving that the applied sciences are of much greater value to every body than the exact sciences. We hope this new departure will be so heartily endorsed by public opinion that other elementary science text-books may follow. We can better afford to introduce new science text-books into the Kansas schools, and forego the luxury of the biennial change of readers, spellers and arithmetics. Typographically, the *Agricultural Geology* is as admirable as if it were published for ornamental rather than useful purposes.

We take the following from a private letter from Irving Todd, dated July 7th:

"We are now in Boston, and have been here since the last of June. We reached Providence the following Sunday after leaving Manhattan, and staid there until the next Friday night. I looked around Providence a great deal, visited two large printing-offices, and spent one day in a sail on the Narragansett Bay. We then went to West Point on a steamer, by way of Stonington and New York. West Point is a splendid place. The Academy buildings stand on a point of land jutting out into the Hudson. The buildings and government grounds occupy the whole of the point,—not more than one hundred acres. A more beautiful place than the parade ground, or one kept in more faultless trim, cannot be imagined. After spending several days at this place, we returned to New York, stopping at Sing Sing on the way down. Here we visited Central Park, Greenwood Cemetery, A. T. Stewart's mammoth store, and some other places of interest. Going down to Newport for a sail up and down the bay, we encountered President Hayes. At this place we saw the 'old mill' and the round tower supposed to have been built by the old Norsemen. Since reaching Boston we have been to Bunker Hill, the Navy Yard and the Massachusetts State House."

OUR JOURNEY TO THE MOUNTAINS.

On Monday evening, the 2d inst., two hundred and seventy-five persons, mostly from Manhattan and the neighboring stations on the Kansas Pacific Railroad, started on a pleasure trip to Colorado. We reached Denver on Tuesday evening without delay or accident of any kind, and, after being nicely quartered in the different hotels, immediately began making arrangements for transportation to the various places of interest adjacent to that city. Arrangements were made for two excursions,—one northward to Boulder, Idaho Springs, Central City and return, another southward to Colorado Springs, Manitou and return.

In the two days given to the first trip, the excursion visited Boulder and Clear Creek Canyons, and the great mining and smelting works in Central City. The Clear Creek Canyon was the grandest sight we saw during our entire journey. It is twenty-one miles long, and is ascended by means of a narrow-gauge railroad which makes 350 curves and rises 2,300 feet during the ascent. Huge gulches, tall mountains, roaring waters, overhanging rocks, and other weird and lovely scenery make this ride one that is grand and beautiful beyond description.

Central City is an extensive mining town, and

while there we visited its largest mines and great smelting works. The hills all around this place are covered with mines which produce ore worth from \$100 to \$200 per ton. There are several processes through which the mineral passes before the different metals are separated from it,—such as crushing, assorting, burning, melting, etc. When finished the purity of the metals from these mines is as follows: Copper, 96 per cent; silver, 98 per cent; gold, 99¾ per cent. From fifty to seventy thousand dollars in gold and silver are shipped from this city every week.

On Friday morning the party went to Colorado Springs, where we spent a day and a half in visiting the Garden of the Gods, Glen Eyrie, Ute Pass, Queen's Canyon, Manitou Springs, Williams' Canyon, Cheyenne Canyon, and Pike's Peak. We ought to have had a month and a half instead of a day and a half in which to examine this garden of curiosities and beauties. There is no use in our attempting a description of these scenes in the limited amount of space at our disposal. Twelve of our company climbed Pike's Peak, looked over at the Turks and Russians in Armenia, shook their heads at the raiding Mexicans on the Rio Grande, and winked one eye at the Indian depredations in the northwest, while with the other they gazed contemptuously down upon those unfortunate Kansans who did not go on the excursion. Flowers and snow-banks grow side by side on this Peak, and although water freezes there at night the weather is only comfortably cool.

Sunday and part of Monday were spent in Denver, attending the various religious exercises, visiting the mint, the fire department, the museum and galleries, and other places of interest. On Monday afternoon at 4:30, the excursionists bid adieu to the kind and hospitable people of Denver and turned their faces homeward, arriving in Manhattan Tuesday evening at ten o'clock. This was the cheapest, most profitable and most enjoyable trip we ever made; and we know that all hands fully appreciated this season of sight-seeing which comes to most people only once in a lifetime.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas. 9-tf

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

A Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas. 8-tf

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YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWAYS. Also, a very fine lot of

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ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, *Sup't Farm*,
Manhattan, Kansas.

(11-tf)

THE INDUSTRIALIST.

SATURDAY, JULY 14, 1877.

THE number of acres in winter wheat in Rice county is 17,751; spring wheat 2,564, making a total acreage in wheat this season of 20,215.

JOHNSON county has this year 10,365 acres of winter wheat and 64,922 acres of corn. Wakarusa township in Douglas county will not be far behind these figures.

A STOCK raiser of Brown county, named Henry Meibach, sold a pig the other day that was only two months old and weighed sixty-eight and a half pounds. It was of the Poland-China breed.

THE time has come when not only the welfare of the agricultural classes themselves, but the safety and prosperity of our government demands some organization which will educate, elevate and strengthen a class which has been so much neglected. A country like this needs a class of farmers as wise, as intelligent, and cultivated as any part of its people. The farmer must not only know how to reach the highest and most intelligent results in the way of production, but he must add to their wide range of knowledge the education of the merchant, to enable him to buy and sell; of the statesman, that he may vote wisely; of the lawyer, that he may criticize and use the laws. Our professional men must be educated men. They must not only be able to do, but know why they do; but the man of the broadest and most general education should be the farmer, because his success requires a wider range of knowledge and a sound and accurate judgment of principles and facts in differing fields.—*Sickle and Sheaf.*

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the INDUSTRIALIST by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

Record, Beloit, Kansas. A real-estate paper. 25 cents per year. Tells all about north-western Kansas. Kelly & Bertram, Proprietors.

News, Girard, Crawford county. A Democratic weekly paper published at the county seat of Crawford county, \$1.50 per year. Tipton & Lamoreaux, Editors.

New Century. The temperance paper of Kansas. Published at Fort Scott. Weekly, at one dollar a year. Rev. Jno. Paulson and Jno. B. Campbell, G. W. C. T., Editors. Sargent & Co., Publishers. 47-3m

Independent, Minneapolis, Kansas. Established 1871. The oldest, largest and cheapest paper in the beautiful Solomon Valley. Price \$1.50 a year. Politics, independent but not neutral. W. Goddard, Publisher. 43-3m

Home Record, Leavenworth, Kansas. Established in 1872. Is the organ of the Home of the Friendless, an Institution founded and controlled by the women of the State of Kansas. Circulation, 3,200. No better medium for advertising in this section. Mrs. C. H. Cushing, Editor. 44-3m

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings, Apparatus illustrating the course in Practical Agriculture.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

Printing!—Daily instruction and drill in the work of a First-Class Printer. The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that taste necessarily exercised by every good Job Printer. The Printing Department is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer. Besides regular class instruction in printing, the weekly publication of the INDUSTRIALIST by the Department furnishes advanced students the requisite drill in newspaper work.

Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the KANSAS FARMER very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks"*. I read your FARMER with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the KANSAS FARMER as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas. 38-3m

ELEMENTS OF AGRICULTURAL GEOLOGY.

By WM. M. KEDZIE, M. S., Professor in Kansas State Agricultural College.

Agriculture being the leading interest in Kansas, it is of prime importance that the sciences bearing upon it should have a place in the State system of education. That this fact has been very generally recognized we have a proof in the adoption of article VI, Section 6, of the Kansas Session Laws of 1876. It demands that every applicant for a teacher's "A" certificate shall be familiar with "the elements of Geology so far as relates to the manner of formation of soils and their adaptation to the purposes of production." There has hitherto been no text-book published, however, at all adapted to the wants of the common schools in this respect. *The Elements of Agricultural Geology* has been written by Professor Kedzie, at the urgent solicitation of many prominent educators throughout the State, with the object of supplying this want. It presents the subject in simple, untechnical language that will be easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and at the same time, from a scientific point of view, it is rigidly exact.

The Origin and Formation of Soils, particularly those of Kansas, forms the second part of the book, and will be of interest to agriculturists generally. Teachers designing to apply for the "A" Certificate will find the work exactly adapted to their needs as far as this branch of study is concerned.

Professor Kedzie's reputation as an educator being so well established throughout the State, the Publishers present his work with every confidence that it will meet with a most favorable reception.

Price, 12mo., cloth, 96pp., wholesale, \$4.50 per dozen. VAN ANTWERP, BRAGG & Co., Cincinnati and New York.

(2-1f) For sale at S. M. Fox's book store, in Manhattan.

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

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The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JULY 21, 1877.

No. 14.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

Butter Vs. Cheese.

The tendency every year is to work up more closely every product of the farm. It has often been said that the farmer wastes for want of knowledge a splendid margin of profit. The dairy interest has its great waste as well as other departments of agriculture. Butter represents only one-third of the milk, but when this is made all the rest is generally treated as refuse and fed to pigs or calves. Now, the caseine of the skimmed milk has a greater food value, though not commercial value, than the butter. There have been many efforts to save the cheese of the skimmed milk, representing as it does one-half, at least, of the food value of the whole milk. That we may realize what an enormous amount of excellent human food goes to waste for the want of proper knowledge of how to utilize this skimmed milk, we have only to look at the statistics of butter production in the United States. The lowest estimate that can be made for 1876, based upon the census of 1870, is 650,000,000 pounds of butter; and it is well established that for each pound of butter made two pounds of cheese may be made from the skimmed milk. This would yield 1,300,000,000 pounds of cheese as the natural production of the milk from which butter has been made. Now, if we only value this cheese as equal to ordinary beef as food, then it would represent 1,733,333 head of cattle, dressing 750 pounds of meat each. And if this cheese were so well made as to be worth eight cents per pound, it would amount to \$104,000,000 per annum.

We make these calculations to show what a great field there is here for the use of skill and scientific study in turning this great waste into a human blessing. We have been quite inclined to favor every effort designed to make wholesome food of this product. We know that some of our most intelligent dairymen have regarded the manufacture of skim cheese as a direct injury to the market for whole milk cheese, and have often carried our leading associations with them in condemnation of the practice; but these opinions resulted from the large quantity of vile skim cheese made without skill,—the caseine simply dried down like rawhide, and quite unfit for the human stomach. Skill must devise ways of breaking down this caseine in skim cheese into a soft, plastic, buttery condition, such as may be eaten with pleasure to the palate and profit to the body. In fact, this has often been done in accidental cases, and it would seem, from a statement of Prof. Voelcker, that some cheese-makers in Norway have discovered a system of doing it, as he had received such cheese so soft and plastic that it might be spread upon bread

like butter, and in taste could not be detected from whole milk cheese, although it contained but the smallest fraction of butter. The great bulk of the nutriment in milk is in the caseine, and the butter is mostly valuable in assisting in the curing process of the cheese, breaking down the tough texture of the caseine, rendering it more agreeable to the taste and more easily digested. Now, what is most urgently wanted is a sure and easy process by which this condition in the caseine may be produced without the aid of the butter.—*National Live Stock Journal*.

Exports of Fresh Beef to Europe.

A statement has recently been compiled by the Bureau of Statistics which shows the remarkable progress made in the exportation of fresh beef from the United States to Europe. The first shipments were made in October, 1875, when 36,000 pounds of beef, valued at \$2,800, were exported. The following month the same number of pounds valued at the same amount were shipped. These two months' shipments, which appear to be experimental, proved eminently successful, and from that time forward the shipments have steadily increased, going from 36,000 pounds in November, 1875, to 134,000 in December of the same year. The year 1876 opened with the success of the experiment fully established, and during the first month of that year 162,000 pounds were shipped. For the three months ending March 31st, 1876, 766,000 pounds, valued at \$61,000 dollars, were exported. The month following, the exportation increased from 300,000 pounds in March to 1,256,000 pounds; and during the months of May, June, July and August over 1,000,000 pounds were shipped each month. The two following months, September and October, the shipments averaged 2,500,000 pounds each month. To that time the exportation of fresh beef was confined to the port of New York. In October, Philadelphia commenced exporting, the first shipment in that month from that port reaching 151,000 pounds. The next month, November, Philadelphia shipped nearly 1,219,500 pounds, and New York shipped nearly 3,000,000 pounds for the same month. For the months of April and May, the aggregate shipments from New York and Philadelphia averaged over 7,000,000 pounds per month.

A comparison of the first three months of 1876 with the same period of 1877 will show the extent to which the exportation of fresh beef has increased. For the three months ending March, 1876, the number of pounds shipped was 766,000, valued at \$61,000. For the same period of this year the shipments reached 14,233,015 pounds, valued at \$1,266,972; and these figures are exceeded by those showing the shipments for April and May last, during which two months the number of pounds exported was 15,869,978, valued at \$1,537,387. The total number of pounds exported from October, 1875, to May 31st last, a period of 20 months, was 50,156,447 pounds, valued at \$4,564,638.

Of this aggregate there was shipped from New York over 40,000,000 pounds, and the remainder was shipped from Philadelphia. The largest shipment made in any one month was for April last, when the exportation reached 8,578,213 pounds, at a valuation of \$838,311. Before the close of the present calendar year, it is quite probable the valuation of the monthly shipments of this new article of domestic export will exceed \$1,000,000.—*Emporia News*.

Fence Posts Top End Down.

A study of vegetable physiology led me to try several experiments, many years ago, to throw light upon this question. The sap of moisture goes up in the sap wood from the roots to the leaves of the trees. I found if the post is butt end down, the pores are open upward, and water can go up, and thus keep the post moist between wind and water, which must cause a rapid decay. It appeared probable that the pores were only open upward, and not downward in the tree. To test this I cut a small maple sapling two inches through in May, leaving the limbs all on, and placed the butt end in a pail of brine. In thirty-six hours the leaves were saturated with brine, the taste of the salt being strong. At the same time I had cut off the top branch, leaving the rest of the limbs. After winding a cloth around the butt end to prevent evaporation, I placed the top end in a pail of brine, and allowed it to remain several days, but no brine had been absorbed by the top end. It had not penetrated the pores as far as the end was immersed, for if the bark was scraped there was not the slightest taste of salt to be found. This being the case with the green tree, how much more must the pores of the dry tree be closed from the top end downward? I have tried many similar experiments, and think the question settled that if a post is placed top end down no moisture can ascend from the bottom of the hole up the post to rot it, but when the butt end is down the moisture can ascend the pores very rapidly if green, and slowly if dry. Seasoned posts are found to last much longer, because the pores are more or less filled within the seasoned wood. I should also infer that placing the top end down would make more difference in a green than in a dry post. In pursuance of the fact that the pores of green timber had been often saturated with different solutions to preserve it, by immersing the butt end, freshly cut, in the solution to be absorbed, it will also be noted that burning or charring the posts only closes the pores and prevents the absorption of water.—*Country Gentleman*.

FOREIGN papers believe that Europe can take 2,000,000 head of cattle from the United States every year, the limit of cattle-rearing having been reached in many parts of Europe. Figure up yourself what that would come to in the way of revenue to the United States at \$75 a head. The impression abroad is that Americans are not acting with reference to the export of beef as vigorously as they might.—*Paola Spirit*.

THE INDUSTRIALIST.

SATURDAY, JULY 21, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

1877.

Enough is now known to authorize an opinion respecting the main crops of 1877. In this section, and probably throughout the greater part of the State, the white wheat may be set down as about a failure. In some localities the red has been damaged, but as a general rule will not be far below a full crop. Taking into account the greater acreage of this year over last year, and it is not improbable that the aggregate number of bushels for 1877 will be up to the thirteen millions of 1876, and some close observers insist that it will be greater than ever before. First accounts are always exaggerated, and each day seems to strengthen the belief that, taking all portions of the State, the wheat yield will be better than was feared two weeks ago.

The late rains have almost, if not quite, ensured the corn; and the present prospect is that more than an average crop will be gathered. How much the usual acreage in corn has been decreased by the wheat fever on the one hand, and increased by the extra breadth of land broken on the other, remains to be seen; but it is safe to say that the crop is more apt to be above than below 100,000,000 bushels.

Stock men have not only had a fine season thus far, but could not reasonably ask for a better outlook than that before them. In this section the fruit yield will be fair, and the gardener cannot reasonably complain. Taking the season and State as a whole, Kansas has a great deal to be proud of, and the yields are far better than any man had any ground to expect last spring.

Four Years.

The reduction of the course of study of the Kansas State Agricultural College to four years, beginning at the point to which the average district school will carry the pupil, brings an agricultural education still closer to the people, and places it yet more surely within the reach of those boys who have to earn their way by the labor of their hands.

It has not been so very many years, even in America, since an "education" was deemed to be the exclusive right of the aristocratic few; and down in the hearts of hundreds of persons to-day is the feeling that a boy who intends to be a farmer, or a girl who expects to support herself by manual labor, is rather putting on airs and getting "betwixt the wind and my nobility," by seeking an education that will specially train them for the field or shop. The operation of the common schools in the United States has done much toward grinding this

exclusiveness into powder, and the endowment by Congress of agricultural colleges has done something towards opening the eyes of the masses to the fact that a farmer is just as much entitled to a collegiate training for his work as is the lawyer or doctor to one for his profession. But even in the common schools the course of study is avowedly used for the purpose of preparing pupils to enter those colleges or universities which educate students for the learned professions, notwithstanding the fact that ninety-seven of the citizens of Kansas follow industrial pursuits for every three who practice the professions. And so long as these schools are thus conducted, and, instead of teaching that knowledge which has a practical value for the ninety-seven, mainly give instruction in the fancy things that are of no especial value to any body except teachers or other professional men, the aforesaid persons see that no particular "harm" is being done. When, however, it comes to affording a collegiate training for the farm, and to varying from the line and methods of the professional education just so far as is necessary for giving a training that will make a boy an intelligent and successful farmer, then the country is held to be in danger, and numerous objections are made and able-bodied criticisms aired.

There are two forces in the great majority of American institutions which practically maintain the exclusive claim of the elect few to a collegiate education, and which operate against those youths whose parents are poor. The first of these is the length and arrangement of the usual course of study, and the second is the expense of attendance.

The standard course of the United States is rather as an accidental cow-path than as a direct road purposely laid off as a highway between designated points. When universities were established in Europe they were chiefly designed for the benefit of theologians, and were largely moulded by the clergy. In time they came to provide somewhat for the lawyer, doctor and statesman; but they never did, and do not to-day, regard the specific wants of the farmer or mechanic. With the settlement of America also came the European notions of education, and the American system is in the main a copy of the continental one. The process of its growth may be fairly indicated by the following imaginary case: Suppose that, for the purpose of promoting intelligence and of affording American students European advantages, and, especially, of doing something that its rivals hadn't done, Harvard should offer instruction in the noble and important art of deciphering Egyptian hieroglyphics. Harvard would blow about it. Whereupon, Yale, not to be behind in the march of progress, would establish a similar chair and go one better by affording unri-

valled facilities for the study of fossil butterflies. Princeton, for the benefit of science, would order both chairs and an additional one, say for giving instruction in the varieties, characteristics and best methods of collecting and preserving birds' nests, making a special point on African birds. As rapidly as possible the other institutions would fall into line, and after one or two generations of students had imbibed the collegiate milk and fought over the peculiar advantages of their several colleges, the sentiment would begin to grow that no institution could be regarded as either sensible or first-class which didn't make a hideous copy of a frightful original by teaching something respecting Egyptian hieroglyphics, fossil butterflies and African birds' nests. This illustration is not so much overdrawn as many may suppose; and it would not be at all difficult to show that a great deal of the slosh which is now found in the standard "curriculum" got there in precisely that way, and is held there just because the patrons don't stop to think.

As a natural result of this hap-hazard growth, not only are studies included in the usual college course which are of little or no practical benefit, but the arrangement of the whole is such that the pupil is required to spend far more time in its completion than is either necessary or advantageous to those with whom time is a matter of any consequence whatever—as it ought to be with all. And just in the degree that the completion of the course is desirable, precisely in the same degree is the presence of this useless chaff inexcusable.

It costs money to send a student to college, and either the parent or pupil must furnish it. Sensible people, be they rich or poor, do not particularly care to pay say \$600 for an article that can be as well furnished for \$400, or to spend six years in doing a thing that can be as well performed in four years. And apart from the injustice done the student by leading him to believe that the chaff is marketable wheat, and by requiring an unnecessary outlay of time and money, is the further fact that the effect of these long courses is to render it so difficult for those who have not an abundance of wealth to afford their children a collegiate education, that, practically, the bar of exclusiveness is firmly placed against the great majority of farmers' and mechanics' children.

Now, the Agricultural College was endowed for the express purpose of giving such training for the farm and shop as West Point gives for the army. It is neither a law, medical nor theological college, nor is it a normal school. It ought to be shaped for the direct benefit of the farmer and mechanic, and ought to be judged by that standard instead of the standard of professional education. Most men can see a difference between a flour mill and a kid glove factory, and can judge each by its own standard; but when it comes to educational questions it is quite difficult for many persons to see that the instruction of a stock raiser ought to differ from that given to a lawyer's clerk. We congratulate the State and the Agricultural College upon the reduction in the course of study, and have no doubt that time will prove the wisdom, justice and benefit thereof.

THE INDUSTRIALIST.

SATURDAY, JULY 21, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending July 19th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	13	89°	65°	78°	28.81
Saturday.....	14	90	73	83	28.61
Sunday.....	15	89	59	81	28.63
Monday.....	16	83	63	74	28.80
Tuesday.....	17	73	60	71	88.73
Wednesday.....	18	82	50	73	28.77
Thursday.....	19	75	47	65	28.82

Average temperature for the week, 75° 32.
Range of temperature for the week, 43°.
Rainfall for the week, 1.75 inches.

Mrs. Ward has returned from her visit to Ottawa.

Wednesday, Thursday and Friday of this week were remarkably cool days.

James F. La Tourrette is clerking in a store and post-office in Las Animas, Colorado.

The masons have been steadily at work on the barn, but the walls are not yet finished.

W. C. Stewart and wife are going to house-keeping. They will occupy the house lately vacated by L. E. Humphrey.

Prof. Gale is making a flying trip through the north-east part of the State in the interest of the State Horticultural Society.

Lieutenant-Governor Salter, who is chairman of the Board of Regents of this Institution, has been appointed Register of the Land Office at Independence, Montgomery county.

Persons having houses to rent to students next term will oblige us by making known that fact as early as possible, so that we may be able to give applicants the proper information on this subject.

We have received the premium list of the Kansas City Exposition, which opens September 17th and continues six days. Twenty thousand dollars in premiums are advertised. Entries open to the world.

The Grand Division of the Sons of Temperance will meet in Manhattan next Tuesday, the 24th inst. A good attendance is expected from the different divisions of the State, and an enthusiastic and beneficial session will undoubtedly be held.

The Riley County Normal Institute is in session in Manhattan, with some thirty or forty persons in attendance. We understand the Institute will continue three or four weeks. Superintendent Billings, Prof. Lee and Prof. Hungerford are the leading instructors.

Misses May Campbell, Emma Campbell and Phebe Rathbun called on us Friday afternoon. These young ladies are members of our printing class, and are eager for the College term to open, so that they may get to their "cases" again. Come up almost any time, ladies, and we will furnish you a "stick" and some "copy."

We return thanks to S. M. Brice, of Mound City, Linn county, for specimens of a new variety of peach which he is propagating. These peaches have a rich color, a fine flavor, and are quite large, some of them weighing five and a half ounces. Mr. Brice claims that this is the best and earliest

peach grown in this latitude. It ripens about the first of July.

This week the Mechanical Department sold to Brown & Elliot, furniture dealers in Manhattan, a bill of goods amounting to \$130. The stock consisted of tables and bureaus of various kinds, wash-stands and knife-boxes, wall-pockets, brackets, etc. Messrs. Brown & Elliot are energetic, successful business men, and believe in patronizing home industries.

We learn with sadness of the death of C. S. Buell's father in Binghamton, New York. Mr. Buell and his brother came out here last year to make a home in the West, and have looked forward with pleasure to the prospect of soon meeting their father again; but it was not so ordered. If ever they meet again, it will be "on the other side." We extend them the hand of sympathy.

Prof. Shelton's little boy died Wednesday morning. He had been quite sick for several days, but was supposed to be getting better until a short time before his death. His remains were followed to the grave on Wednesday evening by the bereaved family and sorrowing friends. The entire community deeply sympathize with the Professor and his wife in the loss of their little cherub.

During the thunder-storm last Sunday night, the house occupied by Mr. Thomas Morgan was struck by lightning. The charge passed down the chimney within three feet of where Mr. Morgan was sleeping. Johnny Griffing must have been out late visiting—his friends, for he did not hear the thunder, and was only awakened by the falling plaster and the dust in his room. No serious damage was done, but it was a narrow escape.

We received a "postal" this week from Mrs. H. V. Perry, of Joplin, Mo., upon which she sends the following beautiful lines as expressive of her affection for July flies:

Oh, the flies! the horrible flies!
Buzzing around like election lies;
Dodging around like a maniac's dream,
Over the butter and into the cream,
Holding conventions all over the bread,
Biting your ears and tickling your head,
Crawling,
Buzzing,
Too busy to die—
Dog gone the nasty, pestiferous fly.

DO IT AGAIN.

Our townsman, Gen. S. M. Ferguson, who is anything in the world but a belligerent or blustering gentleman, some weeks ago got the idea into his head that he wanted to go to Colorado at less than ordinary rates, and that numerous other people were in the same fix. The fare from this point to Denver is \$29.45, and when he chartered a special train and offered tickets to Denver and return at \$10, it seemed to an outsider that Samuel's chances for making a permanent investment of his superfluous capital were remarkably good. In Colorado, also, his party obtained a reduction of railroad fares from about \$20 to \$9; in other words, its members "did" far more than many tourists at a total fare of \$19, and a total outlay of from \$30 to \$40 per person. So far from losing, he has been the gainer by a handsome profit on his risk and work; and that party saw more in the same time and at less expense than any pay excursion has ever done.

The railroad companies are satisfied with their receipts, the excursionists are more than satisfied with theirs, and the placid countenance of the General is mellow and bright with the ripeness of contentment, being like unto an early apple fully matured. The only people who aren't satisfied are those who didn't go that time, and who, after harvest, would like to cool their eyes with the sight of snow, stretch their lungs with mountain air, expand their souls by trying to wrap them around Pike's Peak, and blister their precious toes by cavorting about generally. Do it again, S. M., do it again; and doxologize the train with some Pullman cars for the benefit of the Nod family!

Many hearts will be pained to read of the death of Eddie Shelton, which we this week record. Although Prof. and Mrs. Shelton have been in our midst but a few years, they have won many friends who deeply sympathize with them in this sad bereavement,—the loss of their bright and lovable boy. The funeral services were held at their house on Wednesday evening, and conducted by Rev. Prof. Lee.—*Nationalist*.

That little gem of a weekly paper, the *INDUSTRIALIST*, published at the Kansas State Agricultural College, Manhattan, Kansas, for June 30th, contains a very sensible and well-written paper on the "Common Roads of Kansas," and "Vacation Notes, No. 2," by Prof. Shelton, and we copy that portion of the Notes relating to Berkshire swine and fattening pigs, on account of the great value of the advanced ideas it contains.—*Kansas Rural*.

LETTER FROM PROF. PLATT.

MENDON, ILL., July 16th, 1877.

Editor Industrialist:—The "ark" landed us all safely at the old homestead last Friday. The second week of our journey the weather was so oppressively hot that it was not very enjoyable traveling, or doing anything else; but the last week the weather was cool, the roads good, and we had a tip-top time. Saturday I spent a part of the day rambling over the old farm; and it brought vividly to mind the old poem, "How dear to my heart are the scenes of my childhood," as I strolled over the hills where, thirty-five years ago, I used to gather hazel-nuts, and through the pasture where I used to drive the cows, and looked in the old barn where the hay was mowed away, not forgetting the old swimming-hole on the creek, etc. Oh, if I was only a poet, how the muses would flow!

The crops through Missouri are very variable. On the south side of the river, from Kansas City through Independence, Lexington, Dover, and on to Glasgow, one hundred and twenty miles east of Kansas City, the crops were very fine. We passed every day many large fields of wheat just being harvested which looked beautiful. The corn, oats and timothy hay fields were also growing quite rankly; but, crossing the river at Glasgow and proceeding north-east to Huntsville and on to Paris, there was quite a change. Very few wheat fields were seen; the corn looked sickly, small and very weedy; and for a whole day not an oat field was seen and few potatoes, while here and there a little patch of sickly tobacco plants would be sticking up through the weeds. The hay crop was the only good one. Very frequently the tops of last year's corn stalks would be seen above the weeds, showing that a plow had not touched the land this year. As we approached Palmyra and on to Quincy, Ill., there was a decided change for the better.

To an overland traveler across the State, one of the most noticeable features is the improvement in the breeds of swine. We saw very few of those long-nosed, lop-eared, sharp-backed, slab-sided, long-legged, half-starved, stake and rider rail splitters which used to frequent every lane and open patch of ground in the State; and in their places were to be seen many of what Dr. Vail calls the short-horn pig, with a mixture of the Essex and Poland-China. These animals were in good condition, far more pleasing to the eye, and certainly much less annoying as companions in camp; for those old hungry fellows used to make a raid into camp and actually grab the biscuit out of the bake-kettle and be off with it just while your back was turned a minute. This fact must also increase the pork income of the State by many thousands of dollars.

I cannot speak so favorably of the appearance of the school-houses of Missouri. In traveling the same distance in Kansas, one will see five or six neat and commodious school-houses where he will see one in Missouri. Some neat country churches, mostly belonging to the Methodist order, would meet the eye. Evidently, during the last decade there has been quite an improvement in the general thrift of the State. The crops back of Quincy, Ill., although backward on account of the rain last spring, promise a good yield,—except the fall wheat, which did not fill well.

The thermometer yesterday stood at 98°, and last night I longed for one of our Kansas breezes to cool off the air so that I could sleep. Shall remain here visiting my friends a couple of weeks or so, and shall then face about the "ark" for Manhattan, which we hope to reach a week or so before the beginning of the term.

Respectfully, J. E. PLATT.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

THE INDUSTRIALIST.

SATURDAY, JULY 21, 1877.

THERE are twenty-one colleges in the New England States. Maine has four, with 455 students; New Hampshire one, with 347; Vermont three, with 172; Massachusetts nine, with 1,918; Rhode Island one, with 250; and Connecticut three, with 1,037; making a sum total of 4,179. Of all these colleges, Harvard has the largest number (1,370) of students. There are twenty women students at Harvard in the summer schools of chemistry and botany, and twelve at Yale in the school of fine arts.—*Paola Spirit*.

THE Bureau of Statistics has prepared a statement showing the exports of cotton manufactures from the United States during the month of May, 1877, and for the six months ending the same compared with the corresponding periods of 1876. The exports of cotton goods during the 11 months ending May 31st, 1877, were 57,818,647 yards, valued at \$4,939,618, as against 44,279,405 yards, valued at \$3,429,316, in 1876. Other cotton goods to the value of \$647,952 were also exported during the six months ended May 31st, 1877, as compared with \$435,383 in 1876.—*Paola Spirit*.

Kansas Wool.

At the present time eastern wool markets do not recognize Kansas wool except under the general term of "western." Colorado, New Mexico, Missouri, and other western wool-growing States are represented in the East, and their wools given a distinct quotation. Now, the fact is that Kansas wool will grade higher than either State mentioned, and bring, if properly sold, a larger average price. More attention is given to the improvement of the flocks, and as a healthy wool-producing State Kansas has no superior. What is wanted at this time is organization among the sheep breeders of the State, through which organization they may perfect business arrangements for the sale of their wool in markets which will secure to them the grade and price justly due them. The intelligent attention now given to the improvement of sheep, of both Merino and long-wools in our State, will secure to our wool-growers the best prices the market allows, if there is the necessary attention given to perfecting arrangements for the sale of Kansas grown wool as Kansas wool.—*Farmer*.

KANSAS PRESS.

As an expression of our appreciation of the kindness shown to the INDUSTRIALIST by the Kansas press, we will insert gratis, for at least one month, a three-line nonpareil advertisement of any paper furnishing the copy therefor.

News, Girard, Crawford county. A Democratic weekly paper published at the county seat of Crawford county, \$1.50 per year. Tipton & Lamoreaux, Editors.

New Century. The temperance paper of Kansas. Published at Fort Scott. Weekly, at one dollar a year. Rev. Jno. Paulson and Jno. B. Campbell, G. W. C. T., Editors. Sargent & Co., Publishers. 47-3m

Independent, Minneapolis, Kansas. Established 1871. The oldest, largest and cheapest paper in the beautiful Solomon Valley. Price \$1.50 a year. Politics, independent but not neutral. W. Goddard, Publisher. 43-3m

Home Record, Leavenworth, Kansas. Established in 1872. Is the organ of the Home of the Friendless, an Institution founded and controlled by the women of the State of Kansas. Circulation, 3,200. No better medium for advertising in this section. Mrs. C. H. Cushing, Editor. 44-3m

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Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

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Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the KANSAS FARMER very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moretown Farm, author of "Walks and Talks"*. I read your FARMER with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the KANSAS FARMER as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas. 38-3m

KANSAS STATE AGRICULTURAL COLLEGE.

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E. M. SHELTON, Prof. Prac. Agric., Sup't Farm.
E. GALE, Prof. Botany and Horticulture.
J. E. PLATT, Prof. Elem'y English, Mathematics.
JNO. D. WALTERS, Teacher Industrial Drawing.
D. J. BREWER, Lecturer on Practical Law.
A. TODD, Sup't Mechanical Department.
A. A. STEWART, Sup't Printing Department.
W. C. STEWART, Sup't Telegraph Department.
MRS. M. E. CRIPPS, Sup't Sewing Department.
Teacher Instrumental Music.

THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, JULY 28, 1877.

No. 15.

THE INDUSTRIALIST.

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Kansas the Best.

Col. John A. Martin, of the *Atchison Champion*, thus concludes his article on the Kansas editorial excursion:

But, after all, we like Kansas best. We like it better after visiting Colorado because Colorado is alongside of it. For Kansas will have to feed Colorado, and there is not a corn or wheat field, not an orchard or garden, not a mill or water power in all Kansas that is not the more valuable because Colorado is where she is and what she is. The day will come, and is not far distant, when all the wheat that can be raised in Colorado will not furnish bread for one in a thousand of the busy delvers and workers in the mountains. As for corn, Colorado does not pretend to produce it.

We enjoyed our visit very much. It was at once a revelation and a delight. During the ten days of our absence we traveled over sixteen hundred miles, over four different railroads, and we saw much and learned much of the prairies, the plains and the mountains. Not a single accident nor an unpleasant occurrence marred the pleasure and enjoyment of this long, interesting and pleasant journey. We were glad to go and glad to return. We come back refreshed in body and mind, better satisfied with our own State, and more confident of its future than ever before. We have traveled through most of the States of the Union, and nowhere can one enjoy lovelier landscape views, nowhere is there a richer or more fruitful soil, nowhere are all the elements of a prosperous and contented life more happily blended, than here upon the rolling prairies of Kansas.

From the peaks and crags and canyons of Colorado to the breezy prairies of Kansas is a sudden transition, keenly enjoyed by a true Kansan having a loving faith in the bounties of his own fair State. Colorado is grand, but Kansas is lovely. Colorado is rich in minerals, but Kansas is richer in the inexhaustible fertility of her soil. And when returning homeward our party had fairly entered the fields of Kansas, and from either side, as the rapid cars swept onward, we feasted our eyes on the silver streams fringed with thrifty trees, drank in the pure breezes of the prairies at every inhalation, saw the harvesters at work in the fields of golden wheat and dark green corn, heard the whistling of the quail, the clucking of the prairie hen, and the melody of the blackbird, robin and thrush in every sweet valley or clump of trees, and drank in all the beauties of the loveliest landscape that the sun, as it passes from continent to continent, ever shone upon, we think there was but one thought in every mind as there was

but one expression in every voice, and that was that Kansas is, after all, the most beautiful State in all the sisterhood of the Union. The irrigating ditches of man can never do for Colorado what God's sunshine, rains and dews will do for Kansas. The wealth of our fields is better than the riches of her mountain fastnesses; our pure breezes are fuller of health than her mineral springs; what our prairies lose in grandeur by comparison with her crags and peaks is more than evened by the sweetness of their pastoral loveliness. The stern, rugged, awful sublimity of Colorado's mountains, where the gods seem to have torn the mighty rocks from the bowels of the earth and piled them up in chaotic shapes and forms, as though mocking the power of man, is very impressive; but the sweetness and beauty and glory of Kansas fall on the heart like an uttered blessing, and we have a right to think that upon just such lovely valleys, just such a rounded and charming dimplement of nature, just such babbling brooks and silvery streams, just such a rank richness of vegetation, the eye of the All Father rested when He looked upon His completed work and said, "IT IS GOOD."

The Successful Farmer.

To become eminently successful in any profession two things are absolutely indispensable: First, persistent energy; second, a thorough knowledge of the business in all its details and a fixed determination to keep up with the times. All men engaged in mercantile pursuits, even on a small scale, know well the necessity of keeping posted in everything pertaining to their trade, and all, with scarcely an exception, take and carefully read one or more journals devoted exclusively to their branch of business. They would not do without one, well knowing that their more enterprising neighbor would be benefited by sudden changes in market values of which they would have no knowledge. Every physician has his medical journals, lawyers have their periodicals, and watch carefully the latest decisions of the courts and the enactments of the legislatures. In fact, every profession has its periodicals supported by nearly every member of the class which it represents. By merchants and professional men these periodicals devoted to their interests are considered as indispensable. But with many farmers the case is quite otherwise. Though from the very nature of things farmers generally require a more thorough knowledge of their surroundings than any other profession in order to arrive at the maximum of success, yet very many, indeed, take no pains whatever to familiarize themselves with the nature and habits of their most valuable animals and plants, or of their most destructive and tormenting enemies, and utterly refuse to patronize periodicals devoted solely to their interests, and intended to throw light upon the dark sides of every farmer's life. Many do not even attempt to familiarize themselves with the most common forms of law,—and what is the result? Is it much to be wondered at

that many complain of the unprofitableness of their profession, or that some are victimized by cheats and sharpers? Why is it that the butter of one dairyman always brings two, three and five cents per pound more than that of his neighbor? In the house of one you may find dime novels, comic almanacs and police gazettes; in the other carefully read agricultural papers and dairymen's books. Why is it one man always happens to receive the very highest market price for all his grain and produce, while his unfortunate neighbor can scarcely receive enough to pay expenses? Some say "one is lucky," etc. In the language of a well known college president, we say, "Pluck is a hero, luck is a fool."

Packing Apples so as to Keep.

To avoid the cause of such complaints in future, it will be well to bear a few hints in mind. First, good clean barrels are necessary; old, damp, musty ones should never be used. Over the bottom of the barrel scatter a layer of buckwheat chaff, one inch deep; then put in a layer of apples, so that they will just touch each other, taking care not to crowd them too much, and if the apples in each layer are of uniform size, so much the better. Now spread a second layer of chaff, just enough to cover the apples, and work it down between them by pressing the hand over each stratum a few times. Continue this operation until your barrel is full, always pressing your apples down tight after you have inserted four or five layers. Apples picked, sorted and nicely packed in this way will hardly ever rot, and should one do so the chaff will absorb all juices, and those lying next to it will not be injured. Those who have only a few trees, and these mostly bearing fall fruit, can keep their apples far into winter if packed in this way, and winter apples, indeed, do not get fit to eat until about mid-winter. No chaff except buckwheat will do, as all others are apt to gather dampness and mold.—*Rural New Yorker*.

SUNSHINE.—The world wants more sunshine in its disposition, in its business, in its charities, in its theology. For ten thousand of the aches and pains and irritations of men and women we recommend sunshine. It soothes better than morphine; it stimulates better than champagne; it is the best plaster for a wound. The Good Samaritan poured out into the traveler's gash more of this than of oil. Florence Nightingale used it on the Crimean battle fields. Take it into all the alleys, on board of all the ships, by all the sick beds. Not a phial full, not a cup full, not a decanter full,—but a soul full. It is good for spleen, for liver complaint, for neuralgia, for rheumatism, for failing fortunes, for melancholy. Perhaps heaven itself is only more sunshine.

LEAD is being discovered at different points in the southern part of the State as far west as Chetopa. The greatest lead mines in the world will ultimately be in Kansas.

THE INDUSTRIALIST.

SATURDAY, JULY 28, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

Results.

It is well enough to cast up accounts once in a while and see how one's business stands. In comparing the present condition of the Agricultural College with that of four years ago, when our connection with it began, there are certain prominent facts which are not only patent to all, but which tell their own story. The Institution has been removed from the poor farm on the Hill to the rich one near town, rendering it possible for students to benefit by competing rates in boarding. The single and insufficient building of the Hill has been exchanged for the six large buildings already erected or provided for; and these buildings have been designed for the specific uses of a college, not only furnishing many times more room, but furnishing room in the best shape. These have cost the State during the time named less than twenty-five thousand dollars. A huge debt, contracted before our day, has been paid or provided for, and the expenses of the College are met by its own income. So far as the Legislature is concerned, it has nothing more to ask until additional students shall render additional buildings necessary. The cheap howl which cheaper demagogues occasionally raise about the taxation of the people for the benefit of the Agricultural College, is wholly untrue, because this is the only one of the State's institutions which is supported by its own income.

The course of study has been fully changed and adapted to the purpose of affording a practical education out of which a man can make a living as a farmer or mechanic, or a woman can support herself by the needle, telegraph key, printer's case, or as a music teacher. The several industrial departments have not only been established, but are fully equipped for practical work. The quality of the instruction given in the literary or scientific departments is, to say the least, fully equal to that given in any other institution in Kansas; and, in addition to this, are the opportunities and instruction of the "industrials." The course has been sifted and reduced to four years in length, beginning at a point which any diligent student can reach in the average district school of the State. The attendance of students has steadily increased, and will increase more rapidly as the facilities offered and work performed become better known. The College has been made in fact what its name and the spirit of its endowment require that it should be. And, while much remains to be done, we are quite content with the results of the last four years.

The Strike.

Our readers are doubtless familiar with the details of the current strike, which is the greatest one that has ever occurred in any nation. It began with the refusal of firemen on the Baltimore & Ohio Railroad to submit to a ten per cent reduction of wages, and has spread with wonderful rapidity to all the important railroad and manufacturing centers. For hours the city of Pittsburgh was in complete possession of a mob, and property to the amount of millions of dollars was destroyed. The sheriff was shot and the troops called to his assistance driven from the city by a resistless, maddened crowd. Ostensibly beginning with railroad men, it has assumed colossal proportions; and the doubt seems well founded whether the power of all the railroad men in the country, supposing them to have been united, could account for the effect produced. The fact is that in the majority of cases the railroad men have not entered into the movement with any degree of heartiness, and have been driven into it quite as frequently as they have inaugurated it. And this is the puzzle in the affair. It requires a given quantity of force to effect a given result. This class of thunder cannot be reasonably accounted for by the railroad lighting. There has been no such failure of crops or suspension of manufacturing industries as could create the universal preparation for an uprising by employees necessarily presupposed by this outburst. There is something back of it all; and whether this something is the manipulation of a great organization, or merely the disposition of men to seize upon any opportunity that promises to better their condition, cannot be determined at this stage of the proceeding.

The principle involved is that of the right of property, which is discussed in another column; and whatever may have been the provocations in this case, the fact remains beyond the shadow of a doubt that no set of men has any right to intimidate other men, who are just as poor as are they, and prevent the latter from earning wages for which the former are unwilling to work. It is never right to do a wrong, and in the long run it doesn't pay. The destruction of property, whether that of a corporation or individual, cannot be justified by the hardships of the strikers, because that is not the legal, equitable way of removing hardships. And however much all of us may and do heartily sympathize with the fireman in his just complaint that the wages paid are not a sufficient compensation for the labor and risk required, yet the stoppage of trains, the burning of depots, and the killing of sheriffs is not the way to remedy the evil. On the contrary, it is a greater evil than the one complained of, and neither the striker, the employer nor the outside citizen can afford to

submit to such an absolute overthrow of all law and justice.

A better remedy would be for those who are in trades where wages are insufficient, to do just as all other men do, go at something else where they can do better. No man is compelled to fire an engine; he can come to Kansas and farm; and because he doesn't wish to do so, but would rather be fireman, it by no means follows that he is justified in violating the equal right of every shipper by stopping trains, or can be allowed to kill a man because the latter happens to be a railroad superintendent.

Every Man's Right.

During the past week this nation has been shaken to the core by a vivid and horrible discussion of the old question of the right to property. On the one side are men claiming that they are forced to labor for insufficient wages, and on the other men claiming that they can have the work performed at the rates offered, and that, as owners, they have the right to manage their own property in obedience to the general law of supply and demand. Saying nothing for the present of the side issues which provoke or excuse the respective parties, the main issue is simply this: In whom is the right of property vested, in the owner or in the employe, and which of these two is the law bound to support when resort is had to the revolver and torch? So far as the abstract principle is concerned, there can be but one answer to the question. A farmer, either by purchase or by the conditions of fulfilling the pre-emption laws, becomes the unquestioned owner of a quarter section; and, either by his own labor or by the payment of his own money, makes a profit in the cultivation of his land. No one can doubt his absolute title to this profit, or his claim to the protection of the law in the maintenance of that title. If he sees fit to invest it in land, cattle, houses or gold, the law of the nation and of nature recognizes his absolute freedom so to do, and prohibits any unjust restriction of that liberty.

Now, suppose that he chooses to invest it in wages, and that he employs a hand at thirty dollars per month. The transaction between the two is simply a mutual exchange. He wants the skill and time of the laborer, and the laborer wants the money. Each is willing to exchange and each has a perfect right so to do. The farmer, however, presently finds that he can obtain the same skill and labor at twenty-five dollars a month, and acting upon the information says to his employe: "I will pay you at that rate, upon the same principle that I will not pay one merchant thirty dollars for a plow when I can buy it from another dealer for twenty-five dollars." The laborer has two courses: Either he can agree to the modification and continue work at the new rates,

or, feeling that his time is worth more than the sum offered, he can refuse to enter into the new contract and terminate the original one according to its conditions. And then arises the question whether he is justified in saying to the farmer: "There is a difference of five dollars per month between us, and if you don't pay it over I will shoot any man who attempts to do your work at less than thirty dollars. Furthermore, if you appeal to the courts and ask the sheriff to protect you, I will kill your stock, burn your house, and murder you." Evidently the right in the case hinges upon the point whether the farmer or laborer owns the five dollars in dispute. If the former, then the law must protect him in his right to expend it in wages or not as he sees fit; if the latter, then it must equally protect him. No one can deny that the five dollars belong to the farmer, and that the employe has no more right to it than he has to the farm itself, or can claim that he is justified in forcing the farmer to pay it in wages by threats of violence any more than he would be in stopping him on the highway and forcing it out of a pocket-book at the mouth of a revolver. It belongs to the farmer, and the law must protect him in retaining or investing it in such legal way as he sees fit.

Nor is this undoubted right changed in the least when two or more farmers enter into partnership, say as a grange, and, appointing their agents, transact business as a corporation. Are they not as partners possessed of the same rights and entitled to the same protection in the management of the business that they have as individuals? Most assuredly, because the title to the money so invested remains in them and is not passed to the employe upon any different conditions than those in the first case. If this corporation should seek by violence to enslave its laborers, and at the point of the bayonet compel them to work for it on its own figures, whether they were willing or not, then the law would protect them, because every man has a right to his own property be it in the form of skill or cash; but so long as the employe was free to accept or reject its rates and to make or decline the exchange proposed, he certainly is wholly unjustified in a resort to violence, because if he doesn't wish to work for the grange he has full liberty to take a home-stead himself, or make such other investment of his time as he sees fit.

This is the principle which is at the bottom of the current discussion, and it ought not for a moment or by a single individual to be lost sight of. It underlies the whole national fabric, and upon it equally rest the security and happiness of the poorest man and richest man in the land. It was in existence long before this nation was dreamed of, being a formal law of human nature and justice. With its destruction would come

hand in hand the destruction of the individual as well as the nation; and no man, no matter what his vocation, views or condition, can afford to see it impaired. The settlement of hardships, and that hardships exist none deny, is another matter and one which should be attended to, but every man's right to his own life, property and due happiness must be preserved under all circumstances and at all risks.

THE INDUSTRIALIST.

SATURDAY, JULY 28, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending July 26th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Inches of Rainfall.
	Max.	Min.	Mean.			
Friday.....	20	71°	47°	65°	25	28.92
Saturday.....	21	77	49	68	50	28.96
Sunday.....	22	80	53	72	50	28.97
Monday.....	23	84	59	73		29.01
Tuesday.....	24	84	57	73	.50	28.82
Wednesday.....	25	85	61	76		28.69
Thursday.....	26	88	63	78		28.59

Average temperature for the week, 72° 39.
Range of temperature for the week, 41°.

Another excursion to the mountains is being gotten up. Sam Ferguson is at the head of it, and it is to start August 14th.

Last week we had more than the usual supply of local matter, this week we give an extra amount of editorial matter. Average it.

More than the usual number of persons have visited the College this week. Several have been here making arrangements to send their sons and daughters to the College this year.

Persons having houses to rent to students next term will oblige us by making known that fact as early as possible, so that we may be able to give applicants the proper information on this subject.

That sidewalk up the hill is finished. It turns off to the right as you come up the road, and connects with the horticultural building instead of running near the laboratory building as was first intended.

The small grain on the College farm has nearly all been harvested,—the oats being the last to receive the attention of the reaper. The yield has been very good. We will give the figures at some future time.

Through the kindness of Capt. Todd we were taken to his little farm near the College last Saturday afternoon, and were shown its different points of beauty and excellence. The Captain has forty-four acres in this place, and they contain about as much that is useful as any forty-four acres that we know of. Some of the finest and cleanest corn that we ever saw is growing here, and grapes and peaches appear in great abundance. But we haven't time nor room to give a detailed report of the place. We went over more particularly to see some little walnut trees which the Captain is growing. There are eight rows of them, extending nearly the whole length of the

farm on the west side, and they have grown from the seed since last fall. They are now fully eighteen inches high, and are growing very rapidly. Capt. Todd would advise all farmers to grow them, as they are a good, hardy tree, and are valuable either for wind-break or shade.

As indicated by us last week, the meeting of the Grand Division of the Sons of Temperance this week in Manhattan was a very profitable and pleasant one. This order is in its infancy in Kansas, it being less than two years since the first of the present organizations was instituted. At present there are nineteen subordinate divisions in the State, with a membership of over seven hundred. A majority of these organizations were represented at the late meeting of the Grand Division. Several important matters were considered and acted upon, and it is believed that the proper steps are being taken to greatly increase the power and influence of this noble order in the State. The National Division, which met in Detroit a few weeks since, has extended a helping hand; and the Grand Worthy Patriarch and deputies, encouraged by this proffered assistance and their success in the past, intend to pursue with renewed vigor and enthusiasm the work of organizing divisions, creating a healthy temperance sentiment, and enlisting good men in this noble cause.

We clip the following from this week's *Nationalist*:

Miss Josie Harper arrived Wednesday.

W. C. Stewart is at Lawrence, making dispatches fly for the operator there, who is off on the sick list.

We have seen a stalk of corn almost ten feet high. How is that for tall corn on the 22d of July, and not yet in the tassel either?

Arrangements are in progress to make the approaching fair the biggest thing ever seen west of the capital. Last year a variety of circumstances combined to interfere with the success of the fair, but now everything looks favorable.

Last week the gate to the College pasture was broken open in the night and Prof. Kedzie's horse taken out. He offered \$25 for the arrest of the thief, but a few days afterward the animal was found by Mr. Beil, who works for G. W. Higginbotham. The Professor offered to pay him \$10, but he declined to take anything at all.

J. D. Walters, of the College at Manhattan, who teaches industrial drawing, has been in attendance upon the sessions of the normal institute, and called upon us in his town rambles. Mr. Walters is a pleasant conversationalist and clear thinker.—*Junction Union*.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

THE INDUSTRIALIST.

SATURDAY, JULY 28, 1877.

GEN. JOHN FRASER, ex-State Superintendent of Public Instruction, has been elected to the chair of civil and international law and English literature in Western University at Pittsburg, Penn.

SAYS the *Cowley County Telegram*: Mr. M. Markcum, of Pleasant Valley, left at our office a few days since a bunch of timothy heads which average nine inches in length. The grass was grown on the farm of Mr. Holtby, and speaks well for Kansas and Cowley.

WE have the most flattering reports from all parts of the country of the fine crop prospects. The wheat, oats and rye are very fine, and corn, potatoes, etc. never looked more promising. No damage whatever has been done to crops in this country by the grasshoppers, and during the past week nearly all have taken wing for their native homes in the "bad lands." So says the *Garnett Plaindealer*.

Washing Trees.

Why use lime for the bodies and large branches of trees? It has an unnatural and unsightly appearance, while soft soap leaves the bark smooth and of a natural color, and my experience is that it is more effectual. It is an article that most country people have; if not, it can be obtained cheaply from the manufacturer. Potash is equally good. Dilute each pound to a gallon and a half of good water; put it on with a stiff brush, and when not in use it should be kept in water. The person using it should be careful not to get it on his hands and clothes. Soft soap should be put on as thick as it can be used. Any rough bark should be scraped off before washing the trees, and when washed annually no rough bark will appear. — Charles Downing.

A FACTORY is in operation at Davenport, Ia., for the making of sugar from corn, the first in this country. This sugar is the same as maple sugar, or is chemically known as glucose; pure maple sugar, grape sugar and glucose being one and the same thing. The demand for the article by confectioners alone in the United States is immense. The sources of supply heretofore have been France and Germany, where glucose is made from potatoes. Here it is the product of corn wholly. It is as pleasing to the taste as honey. The production of grape sugar and glucose opens a new department for Iowa corn. The capacity of the works at Davenport is five hundred bushels per day. This branch of manufacture bids fair to become of immense importance to the State and country.

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas. 9-tf

The Farm Department State Agricultural College

Offers for sale

YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWAYS. Also, a very fine lot of

BERKSHIRE PIGS, eligible to record and the get of the celebrated boars *Lord Liverpool* and *British Sovereign II*. We have also for sale a few choice

ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, *Sup't Farm*,
Manhattan, Kansas.
(11-tf)

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Dress-Making and Millinery.—Daily instruction and drill in hand and machine sewing; cutting, fitting and making dresses; and all branches of millinery, by a practical teacher.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

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CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

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THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, AUGUST 4, 1877.

No. 16.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

Summer Butter for Winter Use.

How to Make and Pack it--An Object Lesson from Denmark.

Persons who wish to know how to keep the butter made in hot weather for winter use are advised first, to see that the cows are so circumstanced as to be quiet and comfortable. Cows which are by any means worried, or heated by too much exposure to hot sun, or annoyed with thirst, become feverish, and the butter made from their milk will not keep. Sound and healthy milk is a *sine qua non* in making butter to keep. Second, the milk must not be kept so warm while standing for the cream to rise that the cream will become stale before it can be raised and churned. Butter made from stale cream has its death warrant signed and sealed, and nothing will prevent it from going rapidly to destruction. To make butter that will keep, the cream must be fresh; it may be a little sour, but it must not be in any degree stale. If the milk must stand in a warm room, better churn the whole milk when it begins to sour, though it should be but twelve hours old, rather than let it stand for the cream to rise till its freshness is destroyed.

Neither should the cream after skimming be long kept if it must be kept warm. If there is not cream enough for a churning when it is in the right condition, do not keep it till it spoils waiting for more, but supply the deficiency with the milk, and let the churning go on before the cream loses its fresh taste. Third, cool the cream to sixty degrees, as near as may be, before churning. Butter churned at a high temperature, so that it comes soft and white, is spoiled for keeping. If good water is at hand wash the buttermilk out, but if not press out with ladle or lever with the least possible friction. It must not on any account be made greasy. If butter, either in churning or making, is treated with so much violence as to break the grain and make it greasy, it will go to decay like bruised fruit and broken eggs, and for similar reasons. Greasy butter is so perishable that there is no use in packing it away for a future day. It will depreciate from the start and fail continually,—salt will not save it. Many people have an idea that salting high will save butter. No mistake could be greater. It is the avoidance of injury in making which gives to butter its best keeping quality. Butter not injured in manufacturing is the only butter that will keep. Faulty butter will "go marching on" to destruction, though buried in the best of salt.

Some butter, though made in midsummer, may be packed in wooden, metallic, glass or glazed ware, tight or open, and be safely

kept till fall or winter. If the package be of wood, it must have the sap and woody taste removed by soaking first in cold and then in boiling hot brine. If the package is a firkin or tight cask, put a half inch or so of salt on the bottom, and fill to within a half inch of the top, and lay a piece of fine bleached muslin, and cut to fit and nicely adjusted, on the butter. Then fill with salt and head. Place the package in the cellar, or wherever it is to stand, and let the end which has no cloth on be turned up, bore a hole in it and turn on brine till it fills the hole and covers the end of the package, and keep it covered by renewing the brine if it settles away, and set a plug loosely over the hole to exclude the light. If the package is not filled at one time, cover the butter with brine to exclude the air, turning off the brine and replacing it whenever an addition is made till the cask is full. The same course should be pursued when filling any other package. In filling a tub or package with only one end tight, leave an inch space at the top, lay on a cloth as before directed, and fill with salt. Then turn on water enough to cover the butter and half of the salt, leaving half an inch of salt above the water. This will afford a better protection against heat and atmospheric influences than when the brine covers the salt.

Well made butter, thus packed and covered to keep from the light, will keep safely from June till January in the average farm cellars of New York and in corresponding latitudes. While butter is indeed a perishable article, it is not so perishable as to prevent it from being carried over from one season to another, or from one year to another, if well made and handled. Every now and then a farmer may be met who has kept the butter of an entire season not only till the next winter, but to the fall beyond it, when the products of two seasons have been sold together and at the same price, experts accepting them as equally sound. Butter from Denmark which had been exhibited at Vienna in 1873, was shown in Philadelphia last summer, and was still sound and palatable. It is not a difficult matter to keep good butter, but it is a very difficult thing to keep faulty butter, and it is seldom worth while to make the effort. It can only be done by reducing its temperature below the possibility of organic change, which is somewhat difficult. It would be easier to make good butter than to produce and maintain such a degree of cold. At this hot season,* while producers are forcing their butter upon the market at ruinous prices, because it will not keep, a consideration of the circumstances which make it so short-lived would indeed seem appropriate.—*Prof. L. B. Arnold, in New York Tribune.*

Plucky Kansas.

After all the wails and curses and transient despondency of the people of Kansas for a few years over droughts and pests, they have arrived at last, slowly but surely, at the conviction that many of their trials were the direct and natural consequence of their recklessness and extravagance, and

that things which they had bemoaned as the dirtiest of all calamities were not at all extraordinary as compared with the misfortunes of other localities, or particularly disparaging to Kansas as an agricultural country.

The flush times of the fictitious speculative era in Kansas has made the average Kansan a wildly prodigal and thoughtless creature, who gamboled merrily in the sunshine of a suddenly inflated prosperity heedless of the future. He laid up nothing for a rainy day, and was really incapable of those economical and prudent provisions, characteristic of wealthy farming communities, of hoarding away from the bountiful accumulations of one season to carry him through the possible disasters and failures of the succeeding one. The disease of speculation and spendthrift habits had spread with demoralizing contagion over Kansas. The people had made money rapidly and easily, but it all went as easily as it came, and they frittered away the favoring opportunities our rich State offered through her successful seasons, and real wealth which should have been accumulated was lost to us. And when the bubble of speculation burst and casualties came upon Kansas, blighting her for a time to agricultural prosperity, and hard times set in, the people began to awaken to a realizing sense of their extravagance and indifferent management in the accumulation of real wealth. Their reverses were blessings in disguise, for it brought about a reformation that put them on the sure road to wealth, the basis of economy and industry, instead of prodigality and wild speculation. While a few of the lazy victims of spendthrift habits who were too far gone to reform howled long and dismally about the ill-fated, pest-ridden State, the truly brave and plucky Kansans began the era of the real prosperity by increased industry. And right nobly have our people progressed in redeeming themselves from the evils of the speculative era and demonstrated the advantages of Kansas as an agricultural and stock raising State. We are proud of the people of Kansas. There is no more intelligent, progressive and thrifty people under the sun, and it is very gratifying to note the solid base we are on now, and our swift progress to that point.—*Paola Spirit.*

OUT in Kansas they put the smaller grasshoppers in cages, teach them to sing, and then sell them to Eastern tourists for Wichita linnets.

THE entire railway mileage of the world is 188,548 miles, of which 64,183 miles are in the United States and 30,315 in Great Britain and her colonies. The progress made in other leading nations is as follows: Germany has carried its railway network from 12,408 miles in 1871 to 17,372 miles in 1876; France, from 10,011 miles in 1871 to 12,148 miles in 1876; Austria, from 4,698 miles in 1871 to 10,792 miles in 1876; and Italy, from 3,409 miles in 1874 to 4,777 miles in 1876.

THE INDUSTRIALIST.

SATURDAY, AUGUST 4, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

The Sugar Group.

We venture to assert that the readers of the *INDUSTRIALIST* rarely have occasion to question its reputation for accuracy in matters of fact. In a paragraph of last week's issue, however, it clips and inadvertently adopts as its own an error originating with an exchange, concerning the nature and manufacture of glucose, or grape sugar. "Pure maple sugar and glucose" are not "one and the same thing," as stated in the paragraph in question; and the manufactory at Davenport, Iowa, for the production of glucose from corn is not by any means "the first in this country." In a very few words, the position of the principal members of the sugar group may be stated as follows: First, cane sugar, or sucrose; second, milk sugar, or lactose; third, grape sugar, or glucose; fourth, fruit sugar, or levulose.

Cane sugar, as its name indicates, is principally manufactured from the stalk of the sugar cane. In France and Germany it is also largely manufactured from the sugar beet, and in this country from the sugar maple. Pure maple sugar is identical in chemical composition, color and taste with cane sugar, as any one who has seen it in its pure, white, crystalline form, as frequently prepared in the Northern States, can readily testify. Milk sugar is, as its name suggests, the sweet principle of milk. It abounds in the milk of all animals, but is especially abundant in the milk of the goats of the mountainous regions of Switzerland, where it is largely manufactured.

The name glucose, or grape sugar, was originally applied to the sweet crystalline production found in many dried fruits, especially in raisins. It now includes a large class of sugar products found naturally in fruits, honey, etc., and manufactured extensively from starch,—potato starch in Europe and corn starch in this country. The manufacture of glucose from corn starch in the United States has been in progress for several years,—much longer than many people suppose, as considerable secrecy has been observed in its production. At the present day a large proportion of the molasses, syrups, "drips," etc., now sold at grocery establishments, and supposed by both purchaser and seller to be the product of the sugar cane, are nothing but glucose syrups manufactured from corn starch. The process is as follows: One ton of corn starch, sixteen barrels of water, and forty pounds of sulphuric acid are placed in a large vat, and heated by steam introduced through pipes. While the material in the

vat is rapidly boiling, a mixture of corn starch and water is run in, a few gallons at a time; and thus the process is continued until the whole of the corn starch is converted into sugar by the action of the sulphuric acid. The excess of the acid is then neutralized by the use of chalk; the whole allowed to stand until all impurities settle to the bottom; and the clear liquid drawn off and evaporated either to a syrup, if it is to be sold as such, or still further to a point at which glucose or starch sugar will crystallize out when cold.

Glucose is much less sweet than cane sugar; two and one-half parts of the former equalling in sweetening power one of the latter. When properly manufactured there is no objection to its use, if sold under its own name. But when placed upon the market as the product of sugar cane, it becomes an adulteration, and should be treated by the law as such. In England its manufacture is forbidden by law. Its production in this country creates a new industry for the consumption of our immense corn crops at home; and, when conducted as an honorable and legitimate department of manufacture, it is worthy of every encouragement. Glucose may also be prepared from many forms of vegetable fiber; such as cotton or linen rags, paper, sawdust, etc. But as the process is somewhat uncertain and expensive, it is produced from these sources simply as a curiosity.

Of the fourth variety of sugar as given above, fruit sugar or levulose, it need only be stated that it is an uncrystallizable sugar found in connection with either cane or grape sugar in many fruits; such as plums, peaches, strawberries, etc. Its name, levulose, arises from its power of causing a ray of polarized light to rotate to the left.—*Prof. Kedzie.*

Railroad Wages.

A good deal is said about insufficient wages, and a great many excuses have been made for strikers on the ground that railroads paid starvation rates. An article in the *New York Tribune* presents the following facts, which are better guides to the true inwardness of the strike than anything else:

In 1860 the railways received an average of fifty-nine cents per one hundred pounds for hauling grain from Chicago to New York. During the last twelve months the average has been but twenty-eight cents—less than one-half as much. Nor has the reduction of receipts been confined to the grain traffic. The average receipts per ton per mile in cents and decimals for all freight moved by the leading railways in 1860 and during their last fiscal year compare thus:

	1860.	1877.
New York Central.....	2.06	1.51
Erie.....	1.84	1.09
Pennsylvania.....	2.12	.892
Lake Shore.....	2.02	.817
Pittsburg, Ft. W. & Chicago.....	1.90	.928
Average of all.....	1.99	.956

Thus the receipts for transportation have been reduced per ton per mile more than one-half. Meanwhile, what has been the change in wages? In 1860 the usual price paid was \$60 per month for engineers, and \$30 per month for firemen. The rates now are from \$82 to \$115 for engineers, and from \$41 to \$58 for firemen. Thus it appears that, while the railroads get less than half as much pay for the same service as they received in 1860, they still propose to pay their workmen in the very lowest case 35 per cent, and from that to 90 per cent, higher wages than they then received.

But the men cannot live, it is said. If there is any difficulty, it is not in the advance of wholesale prices, for the average of prices is now less than seven per cent above what it was in 1860. In the following comparison, wholesale prices of over sixty articles, including different forms of breadstuffs, coal, cotton, wool, iron, leather, tobacco, butter, cheese, sugar, molasses, coffee, tea, and various forms of provisions, are averaged according to the proportions of different articles sold, and the first column shows the sum which would be required to purchase each year the same quantities, while the second column shows the proportion of each year's average price to that of 1860, taken as a standard, or 100. The dates taken are May 1st each year, excepting 1877, and January 1st this year. Later calculations have not been made, nor would it be fair to take the sudden and abnormal advance of prices at the outbreak of the European war as an indication of the average before or since.

	Total Cost.	Per Cent.
1860—May 1.....	\$ 61 55.....	100
1864—May 1.....	140 21.....	225
1865—May 1.....	113 77.....	184
1866—May 1.....	102 83.....	167
1867—May 1.....	116 46.....	189
1868—May 1.....	120 30.....	195
1869—May 1.....	96 50.....	156
1870—May 1.....	84 11.....	136
1871—May 1.....	82 98.....	134
1872—May 1.....	85 45.....	138
1873—May 1.....	81 43.....	132
1874—May 1.....	81 19.....	131
1875—May 1.....	76 48.....	124
1876—May 1.....	69 45.....	112
1877—Jan. 1.....	65 76.....	106

The engineer who received \$61.55 per month in 1860 ought now to be able to buy quite as much with \$65.76 per month, whereas he actually is paid, even after the late reduction, from \$81 upward. On the leading roads there has been no reduction in pay since the war, until the recent ten per cent reduction so savagely resisted, but the men at the close of the war were prosperous and uncomplaining, and yet needed at wholesale rates \$113.77 to purchase as much as \$65.76 will purchase now.

The slow but sure influence of good books and newspapers is thus truthfully discoursed of by the *American Agriculturist*: If you persuade a neighbor to take and read a wide-awake, instructive, reliable journal, treating specially of his business, you set him to thinking, you elevate him and his family. He will experiment, and you will have the benefit of his experiments. His family will read and be more intelligent neighbors. The tone of society will improve, and your own property, even, will be improved in value. Every additional reader in the place will have a like tendency. Scatter annually in any neighborhood \$50 worth of books on agriculture, horticulture, and domestic economy, and it will change the character of the neighborhood, and raise its products many hundreds of dollars in the aggregate every year.

THE INDUSTRIALIST.

SATURDAY, AUGUST 4, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 7:40 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending August 2d, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	27	89°	61°	74°	28.71
Saturday.....	28	83	58	73.25	28.86
Sunday.....	29	87	59	79.75	28.82
Monday.....	30	87	67	77	28.69
Tuesday.....	31	94	68	85.50	28.66
Wednesday.....	1	87	60	78.75	28.93
Thursday.....	2	87	60	79.50	28.99

Average temperature for the week, 78° 25.
Range of temperature for the week, 36°.
Rainfall for the week, .64 of an inch.

The halls of the mechanical building are being plastered.

Prof. Ward is to deliver a lecture before Rocky Ford Grange this evening.

The next term opens Thursday, August 23d. Less than three weeks. How time flies!

President Anderson has been quite sick for the past week, and in consequence is unable to leave Junction City.

The young men of Manhattan have organized a gymnasium club. Pretty hot weather for that kind of amusement.

The *Nationalist* says that Prof. Kedzie's mother expects to again visit Kansas, and will probably spend the fall in this city.

Miss Carrie Steele, of Osage Mission, Neosho county, has been employed by the College authorities to teach instrumental music during the coming year.

Some one had the audacity the other day to help himself to a picket rope lying in front of Prof. Gale's house. Right in broad daylight, too. What a people and what a country!

Persons having houses to rent to students next term will oblige us by making known that fact as early as possible, so that we may be able to give applicants the proper information on this subject.

Among the names of those attending the Normal Institute in this city, we are pleased to notice that of H. S. Maynard, a former College student. Mr. Maynard is a live teacher and a diligent student.

The paragraph to which Prof. Kedzie refers in his editorial was clipped from the *Paola Spirit*. We did not credit that paper with it because we were confident the paragraph did not originate there.

The size of the new barn is 46x96 feet, one story and basement. It will furnish room for forty head of cattle, eight horses, and one hundred and twenty tons of hay, with granaries, harness room, etc.

Mr. George H. Perry desires us to announce that students can obtain board at his father's residence during the coming year. This place is located about half way between the city and the College. Price, \$3.75 per week.

We take pleasure in reporting additions this week to the families of Prof. Shelton and Mr.

George C. Wilder. A boy and a girl respectively. We congratulate the youthful couple upon being born in such a lovely State as Kansas.

We learn with sorrow of the death of Mr. John Charter Harvey, father of Mr. Henry J. Harvey, who attended the College last year. In common with all of Mr. Harvey's friends in this vicinity, we sympathize with him in this bereavement.

We see by the *Censorial*, published at Eureka, Greenwood county, that J. F. Dellinger, who attended this Institution two years ago, has embarked in the harness business in that city. Mr. Dellinger is an industrious young man, and we hope he will succeed.

Rev. Mr. Coe and son, of St. Louis, accompanied by Rev. Wm. Campbell, of this city, visited the College on Friday afternoon, and inquired into the work which the various departments are doing. Mr. Coe thinks of sending his son and daughter to the College this year.

The large stone carriage manufactory belonging to Mr. A. L. Keables was destroyed by fire on last Saturday night. Mr. Keables' books and papers, a few vehicles, and some tools were saved; everything else was consumed. It is not known how the fire originated, but it is supposed that it was a case of spontaneous combustion. Mr. Keables' loss is estimated at \$5,000; insured for \$4,000. The losses sustained by parties who had property in the building will amount to nearly \$500. It is said Mr. K. intends to rebuild at once. He will erect a small wooden building and occupy it while the manufactory proper is being erected.

One of the Manhattan papers a short time since gave us a great gust of wind about the extraordinary growth of a rose bush on that sand-bar of a townsite. It grew fifty-six inches, so they say. Mrs. Colonel Anderson has one which has made a growth this season of one hundred and twenty-eight inches. We always thought this was an extraordinary spot.—*Junction Union*.

Our vine has grown several miles since the report above alluded to. Moreover, the growth of Mrs. Anderson's vine is easily accounted for. One of our most enthusiastic farmers, President Anderson of the Agricultural College, has been visiting the Colonel lately, and J. A.'s wife probably told J. B.'s wife how she could make her vine surpass the common Junction City creepers.—*Nationalist*.

The *Western Review of Science and Industry*, a magazine published in Kansas City, Mo., prints the following favorable notice of Prof. Kedzie's Agricultural Geology:

This little work, prepared for the use of the schools of Kansas, reflects great credit upon its well-known author, not so much for its profundity as for the skill which he has displayed in making it just what it is intended for—a manual for use in the schools. The trouble with most school books on the higher branches is that they are too erudite, and that the learner fails to draw useful and practical inferences from them. He studies the text-books, but at the close of his course has no idea whatever of applying what he has learned to the ordinary pursuits of life. This will not be the case with those who use Prof. Kedzie's book. Every page has its practical teachings, and the youth of Kansas are to be congratulated upon having so valuable a text-book upon so important a subject.

GRANTVILLE, Kas., July 25th, 1877.

Editor Industrialist:—We promised to notify you if the 'hoppers continued "to go on living, growing, gnawing, kicking, and snorting around." They have continued; have committed no depredations, however.

The cereals, with the exception of corn, are harvested and secured from danger. The yield of wheat is generally below an average. Barley, rye and oats an average crop. Corn prospects at present are not gratifying. An early frost will certainly ruin the major part of the crop. Fruit of all kinds in abundance.

Joe E. Williamson is now in Oskaloosa attending Jefferson County Normal Institute. Ninety persons now there in attendance. Joe intends teaching school this fall and winter. Our people have been so fortunate as to secure his services in the village school. What will Prof. Platt's advanced singing class do without Joe's melodious tenor?

We may have to rusticate this year. Will know in a week or so whether or no we will return to school this fall.

BEECHER.

PROF. RILEY'S 'HOPPER MACHINE.

The Mechanical Department has constructed a new locust exterminator for Prof. Riley. This machine operates upon the bagging principle. It is, briefly, a large canvas bag stretched upon a light but strong frame and placed upon runners. The canvas is stretched upon the inside of the frame, thus making the bag smooth and even within. This bag has a mouth ten feet long and two feet high, and converges backward to a small box one foot square with an opening covered with wire cloth above and containing a slide cut-off at the end. This box opens into a small cylindrical bag two and a half feet long and one foot in diameter. This bag is kept in position by two tin hoops attached to a wide runner beneath, which is fastened to the main machine by leather straps. The hinder ring contains the door, which is of wire cloth stretched upon a stout iron ring, which fits tightly within the bag-ring, and swings upon a pivot like the damper in a stove-pipe. The door is fastened by a small iron rod dropped through holes in the bag-ring at right angles to the axis of the door. The machine is made to "take more land" by means of two triangular wings about six feet long attached to the ends, from which are suspended a number of teeth or beaters, which swinging loosely drive the 'hoppers toward the center. The wings also serve as attachments for the motor power.

On smooth ground the machine can be easily hauled by two men, but where the grain is tall and thick it pulls harder. The locusts on hopping into the machine soon reach the small back portion, enter the smaller bag and are attracted to the rear end by the light which enters at the gauze door. When a sufficient number are thus captured, the machine is stopped; the cut-off is slid down in the box, thus shutting the 'hoppers in the bag; a hole is dug behind the machine, the bag tipped into it, the 'hoppers buried, and "presto" the thing is done.

The advantages of this machine are many, some of which are that it requires no additional expense to run it, as for oil, tar, etc.; it will catch the winged locusts as well as the young, if operated on cool mornings and evenings; and is adapted to almost all conditions of growing grain. In testing the machine, quite a number of our native locusts and grasshoppers were caught, but the foreign "spretus" has about disappeared. The machine can be made for about ten dollars, and perhaps less. From all appearances the machine will give good satisfaction, and armed with it we may hope to make a successful "strike" against any "locust monopoly" that may try to crush us in the future.

A. N. GODFREY.

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

The Farm Department
State Agricultural College
Offers for sale

YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWAYS. Also, a very fine lot of

BERKSHIRE PIGS, eligible to record and the get of the celebrated boars *Lord Liverpool* and *British Sovereign II*. We have also for sale a few choice

ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, *Sup't Farm*,
Manhattan, Kansas.

(11-1f)

THE INDUSTRIALIST.

SATURDAY, AUGUST 4, 1877.

The Torpedo System.

When the war between Turkey and Russia broke out we heard a great deal about the strength and efficiency of the Turkish fleet. It was represented as one of the most efficiently organized in the world, comprising vessels of extraordinary power, well armed and ready for action at any moment. Since the war opened we have heard nothing of it. It has accomplished nothing whatever. And now its failure is explained. The Russians have a most efficient torpedo system. Their ports are all defended by torpedoes, and not a Turkish vessel dares to approach them. This fact shows that the torpedo system has effected a revolution in defensive warfare. Powerful fleets will not hereafter be feared by any sea-coast cities or towns. No vessel that has yet been constructed can enter a port defended by the torpedoes now in use. It would be certain destruction to attempt it.—*Champion*.

WHEREVER the pastures of western Missouri have been destroyed by the grasshoppers, new varieties of grass have sprung up which the oldest inhabitant never saw before. The principal of these is a green bunch-grass of luxuriant growth, which now covers pastures and door-yards where only blue-grass has grown for many a year before. Stock eat it with avidity. Some persons assert that it is buffalo-grass, while others see in it a resemblance to other grasses of the plains and mountains west of us. We hope that its development will be studied by some expert in the botany of this continent, for its origin may throw a new and important light upon the origin of migration of the locusts. The seed was evidently brought here and deposited by the swarm that laid eggs in this region last fall. If brought here from Kansas or Colorado only, its identity would surely have been determined ere this by old plainsmen, who are so numerous hereabouts. It has put forth no seed-stalk as yet, and perhaps in this climate it may not go to seed this year. Who will first inform us whence it came and what may be expected from it?—*Kansas City Journal*.

It is a mistaken notion that book knowledge is opposed to the practical. There is much practical knowledge that cannot be obtained outside of books or their equivalent. The captain of a vessel is a practical sailor; so is the man before the mast. But while both can reef a sail equally well, the latter would run the vessel to destruction, perhaps, if placed in command. There is a science in navigation that cannot be learned by simply performing the duties of a common sailor. It must be obtained from books, and the men who safely conduct the thousands of vessels from one port to another, across the boundless ocean, demonstrate how eminently practical this book knowledge is. It is just so in farming. Holding the plow, driving the machine, pitching hay, sowing grain and making cider is all practical work that must be learned, just as a sailor must serve his time before the mast, ere he can aspire to the command of the vessel. And before the farmer can take the higher position of a commander, he must learn something of the science of agriculture, and this can no more be learned by holding the plow than the science of navigation can be by reefing sails.—*Ohio Farmer*.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Dress-Making and Millinery.—Daily instruction and drill in hand and machine sewing; cutting, fitting and making dresses; and all branches of millinery, by a practical teacher.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

A Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils. Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas. 8-1f

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, AUGUST 11, 1877.

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Skyward Journeyings.

Notes on the Excursion of the Kansas Editors to the Rocky Mountains.

BY HENRY KING.

[Prepared at request of State Editorial Association.]

Our President had a talented nose to begin with; and so we made our trip to the mountains in June, when the air was cordial and filled with fragrance. The route selected lay across Kansas southwardly from Leavenworth, along the old time trails of the explorers and traders, the troops of soldiery and the bands of eager argonauts,—in palace cars, mind you, through thriving towns, past splendid distances of growing grain. To reflect a moment was to make it seem a miracle. The presence of civilization has not yet removed the gloss and odor of newness from everything, so recently has the sod been turned, and the cabins built, and the trees set out, and the children turned loose among the marigolds and the gooseberry bushes. The artificial joins so closely with the natural that it is difficult to tell where the one ends and the other begins; and somehow you cannot escape the impression that there is a touch of unreality about it all, it looks so like the rapid sorcery of some fabled summer's night you used to read about in the days when life was a dream to you instead of a battle.

With all its freshness, however, and its monotony of levelness and quietness, the valley of the Arkansas is in reality a region of the most interesting historical memories. In point of fact its occupation antedates the landing at Plymouth Rock, for the Spaniards under Coronado penetrated it from Mexico as early as the spring of 1642—over three-fourths of a century before the coming of the Pilgrims—reporting it to be a land of "mighty plains and sandy heaths, smooth and wearisome and bare of wood," and covered with great herds of "crooked backed oxen," as they called the buffaloes. Then, in 1718, before Washington was born, or our own venerable Isaac Eaton, the French Dutisne with a little army marched through it from the southeast, and on northward for a hundred miles in search of gold. In the autumn of 1806, the dauntless Pike whose name goes forever upward with Pike's Peak, traveled leisurely along the river, where he saw a herd of wild horses—"some very beautiful bays, blacks, and grays, and indeed of all colors;" and where he found and described all the smaller animals peculiar to the plains in our own time. Speaking of the country, he said, "It appears to me to be only possible to introduce a limited population." This, however, he considered "a great advantage to the United States," inasmuch as it would "re-

strict our population to some certain limits, and thereby ensure the continuance of the Union." I wish Pike could come back now to see how much wheat and corn we raise to the acre down there, and to learn that the "rambling instinct" of our people has not been stayed "at the borders of the Missouri," but has gone on to the Pacific, and set an iron zone across the continent, a bow with real gold at the end of it; as a sign and pledge of the security of the Union.

In 1825, Major Sibley, inventor of that bell-shaped abomination, the Sibley tent, was sent out by the government to survey and establish a wagon road from the Missouri to Santa Fe, and the result was the celebrated Santa Fe trail, "the only navigable stream in Kansas" it used to be called, a highway of commerce which was a prophecy of the great railroad that is now developing the valley of the Arkansas in such a wonderful way. That was the year the Osages ceded this valley to the whites—the same year that La Fayette was feasted in St. Louis, then a town not as large as our present Topeka. Two years later, Fort Leavenworth was established; and in 1835, Col. Henry Dodge, U. S. A., led an expedition from there to the mountains, returning through the Arkansas valley, over almost exactly the line afterwards adopted by the railroad, and leaving behind him the Fort Dodge of to-day to recall his name and his work to the Kansas editors, and to suggest to that other Col. Dodge, who subsequently commanded there and who is now at Fort Riley, a soldier of well-earned laurels and the author of the best book ever written upon the plains.

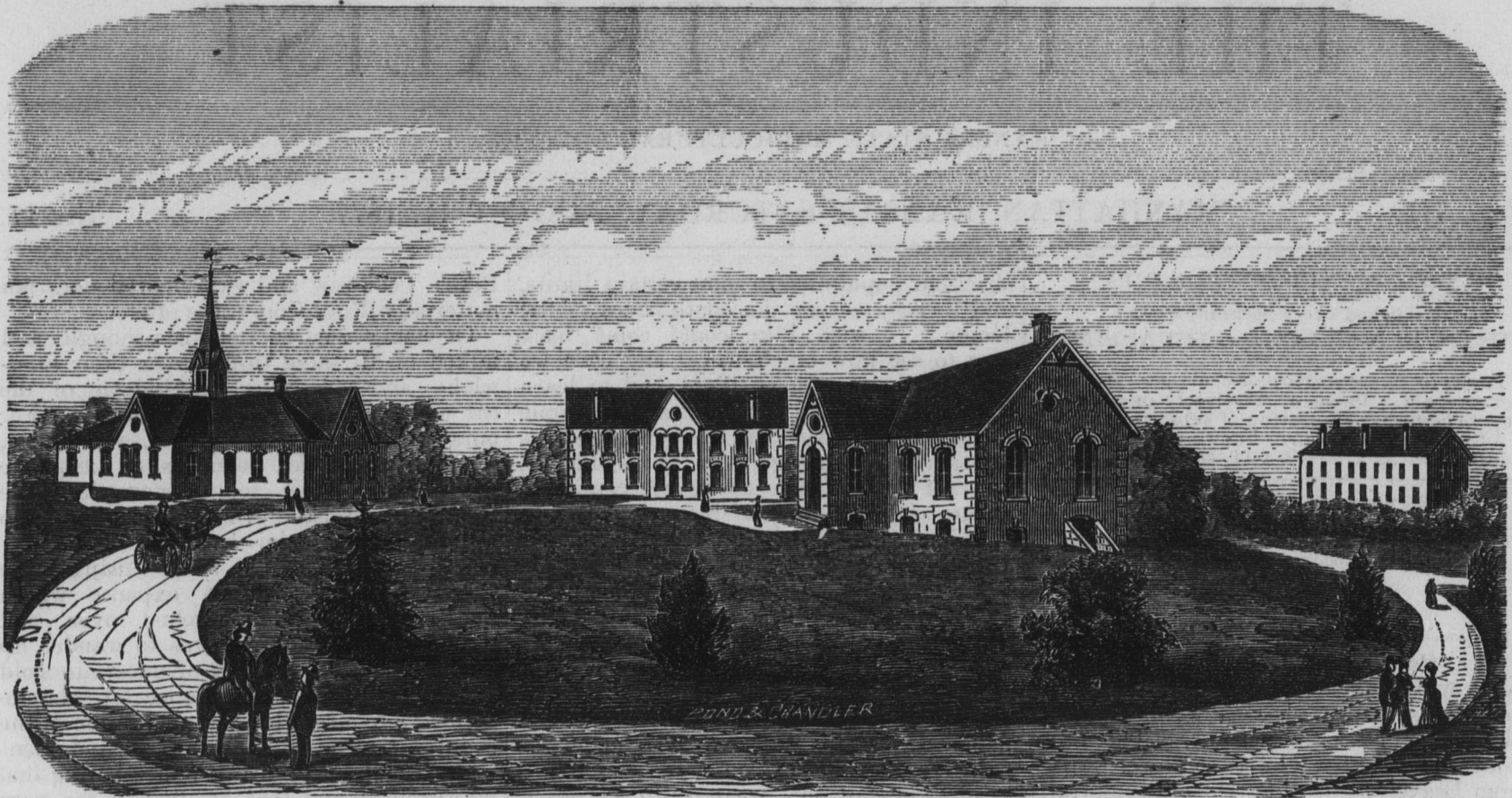
The first overland party for Oregon went through the valley in the summer of 1839. This party, numbering fourteen men, was from Peoria, Illinois, the home of Bob Ingersoll; and an account of the trip, written by one Farnham, was published in London in 1843. I have a copy of this book, a thin volume in board covers, and it is as rich in incident and description as one of Scott's novels. It speaks of the Arkansas as "that American Nile," with water so sweet that "some of the men declare it an excellent substitute for milk;" furious wind storms were encountered; there were exciting chases after elk and antelope; and for some days, it is stated, on either side of the Santa Fe trail as far as the eye could reach, a distance of at least fifteen miles, immense herds of buffalo so thickly covered the country "that when viewed from a height it scarcely afforded a sight of a square league of its surface." Similar reports were made by the writers who went across the valley with Kearney's "Army of the West" from Leavenworth to Santa Fe in 1846—not in 1844, as stated in the "Annals of Kansas;" and by Lieut. Emory, who made a military reconnaissance from Leavenworth to San Diego in the same year, 1846—not in 1848, as given in the "Annals." And the story that Parsons tells of what he and his fellow-Kansans of the first gold-hunting trip to

Pike's Peak saw and experienced does not materially differ from these others.

Of course our excursionists thought and talked of all these things over their sandwiches and soda-water, looking out of the car windows into the June sunshine. For ours was a party of editors, you know, with a few invited outsiders to keep the thing from being too aristocratic. We traced the probable line which Coronado followed, and wondered why he didn't stay in Kansas and go to stock raising. We gazed across the fertile expanse which Dutisne must have marched over, and thought what a fool he was to wander up toward Nebraska in quest of uncertain gold when here was such a chance for "homesteads." We recalled Pike's opinion of the country, and pitied his poverty of judgment in land matters, and then remembering that he was dead, and that he died in the very shadow of our imperiled flag at York, in 1813, we drank to his memory in effective silence at the suggestion of an able guest from Chicago. We caught a starlit glimpse of Pawnee Rock, where may yet be spelled the names of those who cut them there thirty years ago and more; we passed the Great Bend, where F. X. Aubrey, who was afterwards shot by a former Kansan, is supposed to have crossed the Arkansas on his noted horseback ride of 800 miles in four days, from Santa Fe to Westport; we saw Fort Dodge in the distance, with a train of six mule wagons headed towards it, with supplies in real army fashion; we halted at Larned, where Farnham's party camped in that other June so long ago; and, finally, when we had passed the State line, and as the sun was going down in a softened glow of crimson and orange, there came into our view the sight of "Bent's Fort," that most important of all the old plains landmarks, the sign of rest and comfort and safety which so gladdened the weary trail travelers of the early days, the point to which all routes tended, as all roads led to Rome; and where so much of the romance of the border was enacted or recounted, only to fade away and be forgotten with the going out of the old life of rude courage and eccentric honesty, of blended humor and pathos, which was like nothing ever known elsewhere in the world.

When we stepped from the cars at Pueblo the next morning the air was perceptibly thinner, and a little chill came down from the mountains lying before us like a fallen sky of gray and white clouds,—great motionless banks of involved curves and angles and sudden elevations, shutting off the world beyond after the similitude of an extra horizon, and flinging the early sunshine back into our faces with a kind of useless scorn. Just out of town, they looked to be, though we knew the nearest of them were more than twenty miles away. "So near, and yet so far," sighed the Es-thetic Princess of the party, clasping her hands over her bosom in a little cultured ecstasy. "It's no matter," suggested the End Man. And then we went to break-

[Continued on fourth page.]



Kansas State Agricultural College.

Buildings.

The above cut gives a good idea of the relative situation of the several buildings used by the Agricultural College, and, so far as can be done in the space, a fair notion of the appearance of the buildings. The one on the right is at present known as the College building, though it is only temporarily used as such. It was built before our day, and was designed as one wing of an extensive barn. It is 42x100 feet, two stories high, and, besides the chapel, contains nine rooms which are used by literary departments for recitation purposes.

The new barn is not shown upon the cut, but is situated about five hundred feet northeast of the College building and is of the same size. It is admirably adapted to its purpose, furnishing complete accommodations for forty head of cattle and the horses needed on the farm.

About five hundred feet south of the College building stands the Mechanical building, which is 38x102 feet and two stories high. The whole of the lower floor is used as a carpenter shop and is filled with benches, saws, lathes, etc. The upper floor furnishes three rooms for the Department of Instrumental Music, two for the Sewing Department, one for the Telegraph Department, and one for the Printing Department.

Immediately north of the Mechanical building is the blacksmith shop, 20x40, containing two forges and the necessary tools for working iron. It is not shown in the cut, and is the only wooden building on the grounds, all the rest being of stone.

One hundred feet east of the Mechanical building is the Horticultural building, 31x80

feet, one story and a high basement. The main floor contains two lecture rooms, with apparatus cases; and the basement, in addition to cellars, furnishes a large working room for class practice.

One hundred and fifty feet south of the Mechanical building stands the Laboratory, cross form 109x109 feet, one story. It contains a lecture room, office, balance room, physical laboratory, two large chemical laboratories and a kitchen laboratory.

The new College building will be situated one hundred feet south of the Laboratory. The Practical Agricultural wing, to cost \$12,500, will be completed next summer, an appropriation therefor having been granted by the last Legislature.

Each of these buildings is planned for a specific purpose and is adapted thereto. The State has never obtained as much room at the same outlay.

Courses of Study.

The Board of Regents at its meeting in July modified the courses of study as follows:

FARMER'S COURSE.

FIRST YEAR.

Fall Term.—1. Drill in English; 2. Drill in Arithmetic; 3. Industrial Drawing.
Spring Term.—4. English Structure; 5. Advanced Arithmetic, Book-keeping; 6. U. S. History, Industrial Drawing.

SECOND YEAR.

Fall Term.—1. Physiology; 2. Rhetoric; 3. Algebra.
Spring Term.—4. Practical Agriculture (elementary); 5. Physics; 6. Industrial Drawing.

THIRD YEAR.

Fall Term.—1. Botany and Entomology; 2. Inorganic Chemistry; 3. Practical Geometry.
Spring Term.—4. Practical Horticulture, Landscape Gardening; 5. Organic and Analytical Chemistry; 6. Practical Surveying.

FOURTH YEAR.

Fall Term.—1. Practical Agriculture (advanced);

2. Geology, Mineralogy; 3. Political Economy and Practical Law.

Spring Term.—4. Zoology; 5. Agricultural Chemistry, Meteorology; 6. Logic.

WOMAN'S COURSE.

FIRST YEAR.

Fall Term.—1. Drill in English; 2. Drill in Arithmetic; 3. Industrial Drawing.

Spring Term.—4. English Structure; 5. Advanced Arithmetic, Book-keeping; 6. U. S. History, Drawing.

SECOND YEAR.

Fall Term.—1. Physiology; 2. Rhetoric; 3. Algebra.

Spring Term.—4. English Literature; 5. Physics; 6. Industrial Drawing.

THIRD YEAR.

Fall Term.—1. Botany and Entomology; 2. Inorganic Chemistry; 3. Industrial Drawing.

Spring Term.—4. Practical Horticulture, Landscape Gardening; 5. Organic and Household Chemistry; 6. Household Economy.

FOURTH YEAR.

Fall Term.—1. Farm Economy, Special Hygiene; 2. Geology, Mineralogy; 3. Political Economy and Practical Law.

Spring Term.—4. Zoology; 5. Meteorology, Physical Geography; 6. Logic.

The State Agricultural College.

During the four years President Anderson has had charge of the State Agricultural College it has made steady progress. The attendance has increased, the improvements in College buildings have been marked, and all the various departments of the institution have grown with each succeeding year. The young men and the young women of Kansas who wish to pursue, for one year or for four years, a practical and useful course of study, can do so at this institution for the least expense such advantages can be secured in any State in the Union. The institution has been and is doing a good work; and we hope to see such an attendance as to compel the Board each year to enlarge their buildings.—*Kansas Farmer.*

THE only difference we can see between Kansas and the Garden of Eden is that Kansas has about a half a million of sinners and Eden had only two. So far as the landscape is concerned, they look exactly alike, as near as we can remember the garden.

THE INDUSTRIALIST.

SATURDAY, AUGUST 11, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:21 A. M.
Going West..... 4:41 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending August 9th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	83°	63°	75°	28.87	
Saturday.....	75	64	69.75	28.83	.28
Sunday.....	87	65	79	28.74	.70
Monday.....	89	66	77	28.73	.02
Tuesday.....	83	56	73.75	28.79	
Wednesday.....	87	53	73.75	28.79	
Thursday.....	89	62	75.75	28.82	

Average temperature for the week, 74° 89.

Range of temperature for the week, 36°.

Rainfall for the week, 1 inch.

Sundry improvements are being made in the Mechanical and College buildings in the way of window hanging, plastering, and putting down base boards.

We have received for publication an interesting letter from George H. Failyer, but are compelled for want of room to leave it out this week. It will appear in our next issue.

The seventeenth annual meeting of the National Educational Association will be held at Louisville, Ky., on Tuesday, Wednesday and Thursday, the 14th, 15th and 16th of August, 1877.

We are under obligations to the officers of the Shawnee County Agricultural Society for a complimentary ticket to their Eighth Annual Fair, to be held at Topeka, September 12th, 13th and 14th, 1877.

The masons have finished work upon the barn, and the carpenters have full possession. As we write, the sound of some dozen or more hammers proclaims the fact that the shingles are being put in place.

Misses Ettie and Florence Campbell and Mr. J. C. Gault, their cousin, called on us this week. Mr. Gault is from Illinois, and has come out to Kansas to breathe our fresh air during the hot summer months.

Mr. Wm. Osburn, a late graduate of the State University, and former editor of the *Kansas Collegiate*, published by the students of that institution, spent several days in Manhattan the first of the week. He paid his respects to the INDUSTRIALIST office, and also visited the other departments of the College. Mr. Osburn is preparing for the ministry, and occupied Rev. R. Wake's pulpit last Sabbath morning and evening.

In another column, under the head of "Directions to Applicants," will be found some extracts from our new catalogue, which is not yet ready for distribution. We publish these extracts for the benefit of those who desire information regarding the College, and those who expect to enter at the opening of the term. The "Courses of Study" are also re-published this week for the accommodation of applicants and others.

A family has moved into the house lately vacated by Mrs. Jaquith, and will receive boarders during the coming year. Price, \$3.50 per week,

everything furnished and washing done. Mrs. Vete Wisner also will board students. She intends to occupy the house just west of the Congregational Church. Rates reasonable. Both of these places are conveniently situated to the College and to town, sidewalks running in both directions.

Mr. Abner Allen, of Zeandale, has presented us with a sample of the new raspberry, Ganargua, which he thinks will prove quite an acquisition, since it is hardy and productive. The fruit is of a purplish red color, large, early, and continues to fruit after all other varieties are gone. He furnished us also some fine specimens of some early fall apples,—the Cole, Scarlet Perfume, Summer Rose and Duchess of Oldenburgh. Mr. Allen's enterprise in testing new varieties of fruit is worthy of commendation.

Directions to Applicants.

TERMS OF ADMISSION.

Candidates for admission must be fourteen years of age, and pass a satisfactory examination in reading; arithmetic, through decimal fractions; English grammar, to syntax. Classes are started at the beginning of each year in Drill in Arithmetic and Drill in English; and the pupil must have the knowledge above indicated, else he will be unable to retain position if admitted.

Pupils will be received at any time during the year, if able to pass an additional examination upon the subjects studied by the classes which they expect to enter. But they will find it very greatly to their advantage to be present at the opening of each term, or as soon thereafter as possible.

EXPENSES.

In the Department of Instrumental Music, the usual fee is charged for the use of pianos and organs. Male students taking either Printing or Telegraphy are charged \$1 per month for the use of instruments. With these exceptions, there are no charges whatever for attendance, either in the shape of tuition or contingent fees. Furnishing an absolutely free education is as much as can be reasonably asked; and the Institution neither boards, clothes, nor supplies the student with text-books. Boarding can be obtained in private families at from \$3 to \$4 per week. Washing costs from seventy-five cents to one dollar per dozen. Text-books, which can be procured in Manhattan, cost from \$2.50 to \$5 per term.

No student need expend over \$5 or \$5.50 per week, and many of our best students are living at from \$2 to \$4 per week. Students desiring to "board themselves" can do so at from \$1.25 to \$2 per week. In a club of four young men, renting a house, the average cost to each for the term was \$1.11 per week.

LABOR.

Manual labor by the students may be for either of two purposes: First, to acquire skill in a given art; second, to earn money. In the first case, the labor is educational; in the second, it should be paid for by the party benefited.

Educational Labor.—Manual labor in the recitations of the Industrial Departments, like mental labor in those of the Literary Departments, is purely educational, and will not be remunerated. While the interest of the student will be held paramount in the direction of this labor, the practice necessary to dexterity will be required.

Remunerated Labor.—When the Institution needs labor on the Farm or elsewhere which is not educational, but simply for its own profit, and which a student is able and willing to perform, it becomes an employer instead of a teacher, and he an employe instead of a scholar. It pays for work; he works for pay. The relation between them is commercial, not educational; and both parties must act upon business principles. Hence, the College will only furnish such employment as its own interests require, and will pay according to the value of the service rendered at from seven to ten cents an hour.

AMOUNT EARNED.

It is impossible to say how much any one can earn, since that depends upon what the student can do and what work there is to be done. Some are making one-half their expenses, some the whole, and exceptional men have made more than expenses. As a rule, a faithful boy skilled in farm work can earn half his expenses by entering the Labor Class of Practical Agriculture. During the year he can ordinarily acquire sufficient skill in the wood or iron shops to enable him to make articles for sale. The whole question is one for his own consideration and decision; and he should not be too sanguine. We can teach all who come, but it is impossible for us to promise anything more. Hitherto we have refrained from holding out strong inducements respecting the amount of labor we might have to offer; but in view of the fact that during the last three years we have had more to do than the students could perform, we are inclined to give more encouragement on this point. Any boy who is in dead earnest, who is familiar with farm operations, and who can raise \$50 to start with, should be able to carry himself through the four years' course.

TO NEW STUDENTS.

Bring the text-books you have been using. On arrival, first arrange for your boarding. A. A. Stewart, Sup't Printing Department, will furnish information, either by letter or application, concerning boarding places or rooms for rent. Report to the President at 8:30 A. M., immediately after chapel, for enrollment.

For further information apply to Jno. A. Anderson, President, Manhattan, Kansas.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for *one-eighth cash*, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are *all choice selections*, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are *well worth the money*. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

A Kansas Text-Book, for teachers and students. *ELEMENTS OF AGRICULTURAL GEOLOGY*, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas. 8-1f

The Farm Department
State Agricultural College
Offers for sale

YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWAYS. Also, a very fine lot of

BERKSHIRE PIGS, eligible to record and the get of the celebrated boars *Lord Liverpool* and *British Sovereign II*. We have also for sale a few choice

ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, Sup't Farm,
Manhattan, Kansas.
(11-1f)

[Continued from first page.]

fast,—the most miserable breakfast, I think, that the country could well have afforded without recourse to the diet of the Digger Indians.

We were to go that day by the narrow gauge road to La Veta, and up the Pass to the summit of the Sangre de Christo mountains; and we found it an experience that was an apocalypse of delight and wonder. For half the day we rode over the level, inclining plateau of brief grass and abundant sand, having the mountains constantly in sight, the trees on their sides looking like shadows, and the snow above like a pictured daybreak, with here and there an adobe cabin, a flock of sheep, a Mexican oven, a ridiculous goat among the cacti, or a small herd of patient cattle cropping the stingy herbage, to give an elusive notion of life to the arid and lazy solitude. "I don't see what the cattle live on," said the Able Guest from Chicago, "unless it be the air." Up spoke the Inspired Idiot: "That's too thin." Not until we came within neighboring distance, as it were, of the base of the mountains, did we see anything like actual dead-in-earnest cultivation of the soil. All the rest was but make-believe—mere hanging-gardens of farms apparently for ornament more than for profit; and the very best that we saw on the whole route seemed but a pathetic parody when we thought of our own large and beautiful farms back in Kansas. But the ride was full of interest, and more than once a little surprise of natural beauty made us forget the pervading nakedness, and wish, in spite of ourselves, that the mountains were still farther away.

From La Veta to the summit of the Veta Pass, fourteen steep, tortuous, dizzy miles, is a railroad ride without a parallel under the sun. I don't know how to describe it, so much of it is sensation, merely. Words fail as you swing around the first curve, and catch your breath as you look downward; figures tell considerable of the story from the school-master's standpoint, but they leave very much more unrevealed. I doubt if the most minute and vivid painting could be made to convey a fair idea of the scene. Like all spectacles in which nature contradicts herself, and awe makes beauty a spell rather than a delight, it must be felt to be fully comprehended.

I stood on the car platform near the engineer who constructed this fantastic railroad, J. A. McMurtrie, a young man not yet thirty years old, and formerly of Kansas, and heard him modestly run over the details of his triumph. The track starts up the mountains at an average grade of one foot to every twenty-five feet, soon twisting into a vertigo of crookedness as it scales the edges of precipitous peaks and crosses chasms so dark in depth that the eye cannot reach the bottom of them. At one point, looking upward over a gorge a hundred yards wide, you see the line of the road ahead of you along the spur of the mountain five hundred feet overhead. Then you cross Mule Shoe Bend, only 750 feet in width, but 375 feet higher on the upper than on the lower side, and two miles of writhing and climbing place you on the perilous height just named. Looking backward now on the opposite side of the gorge, you see the track over which you passed but half an hour before only a stone's throw distant in a horizontal line, and still so far below that you are stupefied with amazement; and far, far beneath that yet, the yellow wagon road winds out and in, shadowed with unseen foliage and nar-

row like a grave.

Another interval of slow and tiresome ascent, and we land upon the summit, 2,445 feet above La Veta, a mile and a half nearer heaven than we were when we left home, 9,345 feet above the level of the sea—the highest point attained by any railroad in this country, and, with one exception, in the world. There we found a "timber belt" of discouraged pines, oaks and aspens; with ferns, myrtle and whortleberry bushes to give it an air of feeble picturesqueness. We lunched and cracked jokes in the scant shade of the trees; the Esthetic Princess braided some vines in her hair and raised her flushed face to say, "How splendid!" the lovers, for we had a pair of those interesting lunatics with us, went gathering pine cones and bouquets of wild grasses; and the Inspired Idiot, silenced up to this time by his fears, so far recovered himself as to remark: "This is the most stuck-up excursion I ever saw."

Ours was the first passenger train to the summit, and of course we had to celebrate. So when we started down again a halt was made at Prospect Point, and the voice of our President, so familiar in Kansas conventions, sounded a little speech and proposed the customary cheers in honor of the event. Then McMurtrie came forward to thank the party for their compliments to him and his triumph, and to say, with a bit of pardonable exultation, "A man need not be old in these days to accomplish great things." Col. Dodge, whose guests we were, also spoke, as did our Congressman and our Chief Justice; and then, standing there on a projecting ledge, literally between heaven and earth, our Glee Club sent echoing across the dividing line of the continent the rich music of "America."

As they sang there lay before us such a panorama as was never seen on canvas,—a sight which to my mind surpassed all others of the journey in extent and grandeur. Two hundred miles of mountains in plain view! And our altitude subdues the ruggedness of it all without marring the distinctness of its leading features, while the light seems filtered over it out of some new and blander sky. In front the Spanish Peaks, to the right the Snowy Range, to the left Bald Mountain, and away off yonder the white top of Pike's Peak, lifted up and up and up among the everlasting clouds! The Lady of Shallot was leaning on my arm as I looked at it, and when the bell rang and we turned go, I gazed into her eyes with a dumb stare of rapture. "It's real nice," she said. And yet we are told that women are enthusiasts. May God forgive this exception, then—I never can.

[Concluded next week.]

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings, Apparatus illustrating the course in Practical Agriculture.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, AUGUST 18, 1877.

No. 18.

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Skyward Journeyings.

Notes on the Excursion of the Kansas Editors to the Rocky Mountains.

BY HENRY KING.

[Concluded from last week.]

We reached Colorado Springs in what some poet calls "the rosy trepidation of the dawn" next morning, and went by stage to Manitou, over the road traveled by many a caravan of gold hunters; past the spot where the first "Pike's Peakers," from Kansas they were, you recollect, celebrated the Fourth of July nineteen years ago; on through Colorado City, on the site of which this same Kansas party had a permanent camp; and near the massive and grotesque rocks, "rocks of ages" our End Man characterized them, which the fancy of some other Inspired Idiot than ours has grimly named Garden of the Gods. It is as little like a garden, this agglomeration of towering and tumbling rocks, as midnight is like noonday; and as for gods, I'd as soon think of looking for them in a Kansas Legislature. I quarrel only with the name, the thing itself is like a chapter of Victor Hugo.

Manitou, as is well known, is the focus of numerous and varying delights; and our party tasted them all. It is also historic, for Pike of Pike's Peak was there in 1806; and Long of Long's Peak in 1820, one of his party, Dr. James, being the first person to ascend Pike's Peak; and Fremont in 1843, encamping near the Soda Springs; and Capt. Ruxton of the British army in 1846-7; and the gold seekers from Kansas in 1868—a lady of that party, Mrs. Julia Archibald Holmes, being the first one of her sex to stand on the summit of Pike's Peak, "and for aught I know," says the careful historian of the expedition, "the first woman that ever stood that high anywhere."

Two of our excursionists made the trip to the Peak, above the clouds, through two feet of snow; and one of them has written an admirable account of it. Others made a visit to the famous Cheyenne Canon, and the sinister curiosities of Monument Park. But most of the party loitered about Manitou, loath to quit its many enticing pleasures. We drank from the different springs, and tried the several baths. We traversed the Lover's Walk time and again, with burlesque imitation of our own lovers, at whose expense we had much sport, though in our hearts I think we envied the absurd creatures. We climbed the adjacent rocks, those of us so inclined, or watched Fountain Creek go rippling down the glen like a milkmaid's song, or sat on the hotel veranda and absorbed the scenery between drinks of lemonade, and in the evening, it being Sun-

day, listened to an excellent sermon by our Chaplain,—for we took a Chaplain with us, too, not knowing what might happen before we got back.

Next day, by common consent, the Ute Pass was visited; and while it is chiefly interesting on account of its being a "main traveled road" to the newest gold diggings, and because it cost \$40,000 to make it passable for wagons, there is nevertheless one gem of a scene in it that is well worth going up to see. I mean the Rainbow Fall. It is not large, it is not grand; it is simply pretty, like some girls you must know who seem to have been created for the sole purpose of looking sweet and sitting for their photographs, as some anonymous philosopher has observed. It is a little sheet of bright water, spilling over a ledge of granite, with mountains hundreds upon hundreds of feet high on either side of it, and just above it a bit of sparkling foam. That is all. But it fascinates you. Said the Esthetic Princess: "I should leap into the dear thing if I looked at it long;" and I am sure the sensation is shared, more or less, by all who gaze there, though not every one is frank enough to confess the singular charm like our April-eyed and susceptible Princess.

A roundabout carriage ride from Manitou back to the railroad took us through the Garden of the Gods to Glen Eyrie; and from there a half-mile walk led us up Queen's Canon to the Devil's Punch Bowl—full of wonder, all of it, and at times strikingly beautiful. Queen's Canon, particularly, we found to be lovely beyond all report: the jaunt along its little pebbly creek, among its flowers and strange bushes, in the cool breeze from the green-clad mountain-sides, was as the reading of a poem. And we happily had a guide who knew every foot of it, and could tell us its secrets. He was "formerly of Kansas," of course, having held forth at Baxter Springs in its red-hot days. Travel where you may, you can not go amiss of these wandering Kansans. We'll find one of them in heaven—probably—when we get there.

Night found us at Denver, and the next day we went up Clear Creek Canon to Idaho, where the famous Hot Springs are, and the stuff which men dig and crush and wash that the country may get back to specie payment. The town looks like some lost thing, away up there among the weird cliffs, though it has been there some eighteen years. The railroad had reached it only a week before our arrival; however, it yet bore all the traits of the simon-pure frontier mining and stage coach rendezvous. Its baths are the best, perhaps, in the world; and to go there without trying them is to deny yourself a supreme luxury. People do go there, though, some kind of people, who never so much as wash their feet in those marvelous waters. The manager of one of the bath-houses, evidently taking us for a party of European capitalists about to buy the country, said sneeringly, "An excursion of a hundred Illinois editors came here last week, and shoot me if there weren't just three took

baths." Then, with a look of utter contempt, he added: "Editors—and preachers—are the dirtiest people on the earth, I do believe."

On all sides about Idaho are mining shafts, and sluice boxes, picks and shovels, piles of ore, and all the queer appurtenances of gold hunting. Of evenings, we are told, as many as five hundred miners often come down to the village out of the seamed and scarred mountains, after their mail and to lay in their little stores of provisions. I encountered one of them that afternoon, a bronzed and much-bearded fellow in long boots and flannel shirt, who had sauntered into town after "something to cure snake-bite;" and in the half hour I talked with him he told me more about the geology of the region than can be found in all the books, and set the mining business before me in any but glittering colors. The miners about Idaho are making, he informed me, from one to three dollars per day and board—just about the average wages of laborers and mechanics "back in the States," as they still say out there. A ton of the gold-bearing quartz is worth only fifty to two hundred dollars; and it costs half, and sometimes two-thirds, of it to get it out and crush it. "It takes money to make money here," said the miner. "Most of the mining is carried on by companies, and the men work for 'em by the day. A fellow can't do much on his own hook, I tell you. Once in a while somebody strikes a big thing, but it's powerful seldom; there's a good many more of 'em as don't never strike as much as grub and whiskey. Yes, there's gold here—a good deal of it; but it don't lay 'round loose—not much. You have to earn all you get; and gold's to be had on them terms most anywhere"—an idea that Emerson advances in a smoother use of almost the same words, though I dare say this uncouth miner had never read or heard of the Concord sage.

The ride through Clear Creek Canon is one not likely to be forgotten. Rather is it likely to haunt you long afterwards with the memory of its giddy altitudes, its serrated and awful cliffs, and the rumble and roar of the narrow, but deep, swift and turbulent stream from which it takes its name. For over thirty miles you are whirled along this great chasm, between mountains always hundreds and sometimes a thousand feet high, crossing the creek seven times in the distance—so tortuous is its course, the gaunt and solemn pines never out of sight, and the whole of it brooded over by an atmosphere of convergent shadows through which the sun now and then sends a quick throb of light and heat that parches like a fever. The sheer immensity of the spectacle is overcoming. The mind cannot grasp it, and you tire, at length, of trying to hold the eye in such a strain of vision. There is an element of mockery to you in the sullen and inaccessible mountains. Man appears a pigmy in their midst, and his works but as the play of children. Gradually you find the notion growing upon you that there is a great deal of monotony, and not a particle

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, AUGUST 18, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE next term of the Agricultural College opens Thursday, August 23d, 1877, and closes Thursday, December 20th, 1877.

A New Year.

Before our next issue another collegiate year will have begun, the term opening on the 23d. Judging by present appearances, we have never had such flattering prospects. The thoroughness of the course of study and its efficiency in giving the student an education by which he can make a livelihood are points which strongly commend themselves to sensible people. And the progress heretofore made by our students has been of so marked and substantial a character as to win for the College a reputation that grows each year. Internally and externally the Institution is in better shape than ever before for effective work. It has suitable buildings, well equipped departments of instruction, is living on its own income, and in four years furnishes a "boiled down" practical education without charge to the student that is not excelled in the West.

Kansas.

The July report of the State Board of Agriculture, like each of Secretary Gray's reports, is better than any of its predecessors. In spite of the unpromising prospects of last spring, the statistics show a remarkable increase over previous years, as will be seen from the following table:

GENERAL SUMMARY

Showing the acreage of the principal crops of 1877, and the increase and decrease during the year.

Kind of Crop.	Acreage for 1877.	Increase.	Decrease.
Winter wheat.....	845,078.00	98,912.00	
Rye.....	118,935.00		47,119.00
Spring wheat.....	206,148.00		56,878.00
Corn.....	2,538,008.00	671,788.00	
Barley.....	79,533.00		2,407.00
Oats.....	309,134.00		81,201.00
Buckwheat.....	4,087.37		1,294.75
Irish Potatoes.....	44,588.00		4,876.77
Sweet Potatoes.....	1,754.99		450.86
Sorghum.....	20,317.37	4,945.56	
Castor Beans.....	50,840.75	29,631.82	
Cotton.....	545.87		324.64
Flax.....	27,626.37		32,395.37
Hemp.....	1,802.20	366.03	
Tobacco.....	675.88		372.09
Broom Corn.....	20,952.76	6,402.79	
Millit a'd Hung'n	165,975.00	46,113.67	
Timothy meadow	25,073.50	3,881.87	
Clover meadow.....	10,526.00	5,570.31	
Prairie meadow...	501,006.00		44,426.00
Timothy pasture.	4,201.25		5,664.12
Clover pasture.....	1,443.74	844.62	
Blue-grass past're	21,419.81	4,565.24	
Pra'ie past. fenc'd	551,093.00		49,574.00
Total.....	5,545,765.86	877,871.91	328,284.09

Actual increase, 549,587.82 acres.

The facts brought out in the following remarks concerning the total valuation of products are worthy of the closest attention, and we give them in full:

"The total valuation for the State of the live stock and products of live stock, and the field, garden and forage products, for

1876, was \$95,967,041.91. The valuation of live stock and products of live stock was \$50,181,729.05, or 52.29 per cent of the total valuation. The valuation of the field crops and garden products was \$45,785,312.86, or 47.71 per cent of the total valuation. Of this the forage crops, consisting of corn, oats, rye and hay, amounted to \$26,906,221.07, or 28.03 per cent of the total valuation. The valuation of the field and garden products, less the forage crops, was \$18,879,091.79, or 19.67 per cent of the total valuation. The combined valuation of the live stock, live stock products and forage products was \$77,087,950.12, or 80.32 per cent of the total valuation. The valuation of the wheat crop was \$12,413,780.89, or 12.93 per cent of the total valuation. The valuation of the corn crop was \$19,217,332.24, or 20.02 per cent of the valuation. The combined valuation of the wheat and corn products was \$21,631,113.13, or 32.95 per cent of the total valuation. Of the field crop and garden products, the valuation of the farm products, including grain and forage, amounted to \$45,581,926.39; garden products, \$203,386.47. Of the live stock and products of live stock, the valuation of the farm animals was \$39,658,671; of animals slaughtered or sold for slaughter, \$8,082,180; of dairy products, \$1,869,294.72; of poultry, \$433,203.08; of wool, \$138,380.25. It will be observed that in this valuation the products of orchards, small gardens, vineyards, apiaries, nurseries, wines, manufactories and betterments were not included. The increase in the product of cheese from March 1st, 1876, to March 1st, 1877, over the preceding twelve months, was 360,282 pounds; of butter, 1,887,738 pounds; of wool, 42,860 pounds. It will probably be surprising to many to learn that the valuation of the live stock and products of live stock exceed the total valuation of all the field and garden products by 4.58 per cent. If the valuation of the forage product, which is directly allied with the live stock interest, is deducted from the total field product and added to the live stock product, the valuation of the aggregate live stock and contributing products will exceed all field and garden products, less the forage, by 60.65 per cent. The amount of the excess of valuation of the sole live stock and live stock products over the wheat product was \$37,767,948.16, 39.36 per cent; over the corn product, \$30,964,396.81, or over 32.27 per cent; over the combined wheat and corn product, \$18,550,615.92, or 19.34 per cent. This exhibit shows clearly that of all our productive interests, stock raising predominates, and yields a larger revenue than all others combined, with the possible exception of mining industries. Under this latter head may be designated coal, lead, zinc, gypsum, ochre, fire-brick, clay, cement, etc."

Any man who isn't prouder of Kansas

than he was last year ought to emigrate. The State is growing just as rapidly as it should, and each year gives it a breadth and strength that will soon place it in the lead of the agricultural States of the Union.

The Poor Boy's College.

"The printing-office," says the New Orleans *Globe*, "has indeed proved a better college to many a poor boy, has graduated more useful and conspicuous members of society, has brought out more intellect and turned it into practical, useful channels, has awakened more minds, generated more active and elevated thought than many of the literary colleges of the country. How many a drone or dolt has passed through one of these colleges with no tangible proof of his fitness to graduate, other than his inanimate piece of parchment, himself if possible more inanimate than his leather diploma? There is something in the very atmosphere in a printing-office calculated to awaken the mind and inspire a thirst for knowledge. A boy who commences in such a school will have his talents and ideas brought out; if he has no mind to be drawn out the boy himself will be driven out."

Fruit Growing in North Germany.

The monthly organ of the society for *Beforderung des Gartenbaues* of Berlin gives an account of the village and parish of Werder, near Potsdam, which is famous for its fruits and devoted to their culture. The soil is poor, and the 975 acres in fruit are owned by 550 different persons, the average being about one and three-fourths acres. The land is valued at from \$75 to \$300 per acre, and the value of the annual yield when not cut off by frost is about \$150 per acre, of which about \$90 goes for assistance and manure. Peach trees are protected from October until the fruit is set, and when swelling they are watered daily with weak liquid manure. Peaches sell for four times the price of pears or cherries in the Berlin market, and their culture is increasing. Manure is applied to the trees in a curious way. Holes are dug near the trees with as little disturbance of the roots as possible, and are made three or four feet long and two and a half feet deep, and the manure is put at the bottom, below the roots as much as possible, to induce deep rooting. They say that surface manuring encourages superficial rooting, and that has two serious disadvantages; namely, the roots are liable to be killed in severe winters if there is no snow to protect them, and also to suffer from drought in the summer.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

A Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas.

THE INDUSTRIALIST.

SATURDAY, AUGUST 18, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending August 16th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Wind.	Inches of Rainfall.
	Max.	Min.	Mean.			
Friday.....	10	93°	72°	83°	.25	28.73
Saturday.....	11	88	66	79	.50	28.76
Sunday.....	12	84	56	76	.75	28.83
Monday.....	13	80	51	69	.50	28.86
Tuesday.....	14	79	47	69	.25	28.88
Wednesday.....	15	83	53	69		28.87
Thursday.....	16	78	54	67		28.77

Average temperature for the week, 73° 46.
Range of temperature for the week, 46°.
Rainfall for the week, .25 of an inch.

Prof. Gale is spending a few days in Junction City this week.

The Farm Department disposed of four fine Berkshire pigs this week.

Mrs. Hurlburt and Mrs. Meade are each desirous of obtaining student boarders.

Mrs. Wood has rented Prof. Slie's house just east of the Baptist Church, and will receive student boarders the coming term.

Our new catalogue will be ready for distribution about the last of next week, and persons wishing copies can obtain them by applying at this office.

The present week has been a busy one. All the buildings have been thoroughly cleaned, the chairs have been repainted, and there is a kind of newness about everything.

W. C. Stewart has returned from Lawrence, where he has been at work for the past few weeks. Since his return he has been quite ill, but we understand that he is now convalescent.

The grounds about the different buildings have been seeded to blue-grass, and in a few weeks will be covered with a growth of grass that will lend additional beauty to our pleasant surroundings.

We acknowledge the receipt of some very fine specimens of Hale's Early peach from Mr. Abner Allen, of Zeandale, and also two varieties of apples, Chenango Strawberry and American Summer Pearmain.

Students, new and old, are cautioned against purchasing text-books before consultation with the Professors in charge of the classes to which they are assigned, as some changes in text-books have been made.

There are four rooms over the County Clerk's office which can be rented at reasonable rates. Persons desiring information regarding these rooms can obtain it by addressing Miss Jennie Mails or Mr. J. S. Corbett.

We surrender considerable space, usually given to locals, to the time-table for the coming term. By consulting this time-table and the course of study, old students can ascertain what studies they will have and at what hours they will come.

New students on arrival should first arrange for boarding. A. A. Stewart has a list of those wishing to take boarders or having houses to rent, and will furnish information either by letter or application. On Thursday morning at 8:30, immediately after chapel exercises, they should report to the President for enrollment.

TIME-TABLE.

We present herewith a proposed time-table for the coming term. Some changes will in all probability be rendered necessary when it is "tried on." These will of course be made, so that students need not rely upon it as a fixed fact; it is only a "starter." The figures in parentheses indicate the year of the class, and by these the studies of a given year can be traced. The classes of the first and second years are so large as to require subdivisions in most studies. Two divisions are accordingly provided for, should they be necessary.

HOURS.	PROF. ANDERSON.	PROF. WARD.	PROF. KEDZIE.	PROF. SHELTON.	PROF. GALE.	PROF. PLATT.	JOHN D. WATERS.	CAPT. TODD.	A. A. STEWART.	W. C. STEWART.	MRS. CRIPPS.	MISS STEELE.
FIRST HOUR. 8:40—9:30.		Rhetoric, Div. I.		Farm Economy.	Botany.	Drill in English, "A."	Drawing, Div. II.	Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
SECOND HOUR. 9:30—10:20.	Political Economy.	Rhetoric, Div. II.	Chemistry.	Physiology, Div. I.	Drill in Arith.	Drill in "B."	Drawing, Div. I.	Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
THIRD HOUR. 10:20—11:10.		Geometry.	Mineralogy and Geology.	Physiology, Div. II.	Drill in English, "B."		Drawing.	Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
FOURTH HOUR. 11:10—12:00.		Algebra.		Practical Agriculture				Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
FIFTH HOUR. 12:00—12:50.								Carpentry.	Printing.	Telegraphy.	Sewing.	Music.

Term Beginning Thursday, August 28th, 1877, and Closing Thursday, December 20th, 1877.

TIME-TABLE OF THE KANSAS STATE AGRICULTURAL COLLEGE

FROM SOUTHERN KANSAS.

SPRING CREEK, Kansas, July 30th, 1877.

Editor *Industrialist*:—I wish to renew my subscription for the *INDUSTRIALIST*, for which please find enclosed the necessary funds. I could not be without the paper. Each week's issue is anxiously awaited and eagerly scanned for items concerning the students; and those numbers containing communications from them are by far the more interesting. Why cannot more of the students thus favor us? I am willing to contribute my mite.

Crop prospects are perhaps of first interest and importance. Wheat was almost a total failure, on account of wet weather. At present, prospects are good for a heavy yield of corn. A few more weeks of good growing weather will secure it.

This is a splendid stock country,—rich bottom land, and plenty of upland for grazing. And it is not cursed with the herd law as are so many counties in Kansas. I am rustivating among the hills and valleys of Caney.

A short time since a small party of us went black-berrying to relieve the monotony of farm life. As usual upon such occasions, the trip proved a very adventurous one. To reach the berries we had to travel ten miles over brakes and stony hills. Thunder showers and break downs were the order of the first day and a portion of the next, and we were prevented on these accounts from procuring any berries on the first day. We sought shelter for the night in a hospitable farm house not far distant, and the next morning visited the berry patch and found an abundance of berries, but they were only half ripe. After all our haps and mishaps, it now seemed almost literally "sour grapes." But "the boys" of the party, which means the undersigned, had become desperate, and were determined to secure enough berries for a "pie." So we launched ourselves upon, or rather into, that mixture of weeds, brush, briars and water. But locomotion was rather difficult. There was hardly sufficient water for swimming, and a little too much for pleasant walking. However, after many "onpleasantnesses," we in time emerged from the above-mentioned conglomerate very wet, but the happy possessor of about six quarts of half ripe berries.

By this time the clouds were breaking away and the sun shone forth in all his splendor. Our party amused themselves for a while climbing over rocky cliffs to gather the graceful ferns that grew in the mossy recesses. We found four varieties of fern to reward our efforts. We then returned home, not particularly well pleased with the result of our excursion, but perfectly willing to resume the old routine of duties. With this feeble attempt to comply with your oft-repeated request for students to write you, I will subside.

G. H. FAILYER.

The *Annals of Kansas*, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

[Concluded from first page.]

of beauty, in all the steep uplifted wonder, big as it is; and then a feeling that is something like resentment comes creeping over you; and by and by you turn away from it, and sit idly glimpsing the busy evasions of the creek current among the rocks down below.

But you will look up again when you get to Beaver Brook. I did, at least, and the Lady of Shalott stood beside me on the platform, while I directed her attention to the magnificent scene. The mountains there break into a kind of a triangle, and the canon has three sides for a rod or two. The heights are not less than in other places, but the summits are cut in sharper outlines, the range of vision is freer and less fatiguing, and the contrasts are such as have no likeness at any other point. At first glance, it recalls the "Heart of the Andes," only it crowds its glory into a much smaller compass than is depicted in that famous study. The down-going sun cast an enchanting light over it, as we viewed it, turning the grey mountain sides to gold, hiding the few awkward angles in purple, and tipping the uttermost peaks with a hint of flame. In all directions is sublimity—sublimity that does not signify mere ponderousness, but which has effects that soften without belittling it. And presently, as if to herald the splendor to the outlying provinces, a tiny white cloud comes sailing through the little patch of blue that lies away up yonder like a strip of distant sea,—and we watch it float downward a moment, and then on straight up the canon, until it rounds an ugly, frowning curve and is lost to sight in the aching void.

"By the way," I exclaimed, turning to my companion with this last thought on my lips, "what is an 'aching void' any how?"

"Did you never have a headache?" said the Lady of Shalott.

Then I handed her to a seat,—between the End Man and the Inspired Idiot, and lighting a fresh cigar rode in a brown and selfish reverie from there to Denver.

We felt at home in Denver, for it was the party of Kansas "Peakers" already mentioned that "panned out" the first gold on the site of the town in the summer of 1858; and another party from Kansas came along a few months later and founded the town itself, naming it for the then Governor of Kansas Territory. And then, did we not send them one of their first school-ma'ams; and did they not get their first grist-mill from Leavenworth, before they had raised their first bushel of grain; and does not their principal street bear the name of our Gen. Larimer; and was it not our Ned Wynkoop who went out with Park McClure to fight that historic duel which two thousand people assembled to witness, and which an accidental woman, with the usual perversity of her sex, brought to a bloodless and provoking end? Of course, we felt at home there; and the hospitable treatment we received gave to our visit a special emphasis of gratification.

Denver is a marvel in itself, and a beauty. There is probably no other city of its age and size that has such large and attractive buildings, and so many of them. Its streets are wide and inviting also; its yards and parks are gay with grass and flowers; and rows of cottonwoods run everywhere. There are vegetable gardens, too, and out a little way you will come upon fields of growing wheat. But nothing takes root in a natural way. The genius of irrigation presides over—or rather flows under—all there is of

greenness. The little life-giving ditches wander along the edge of the sidewalks at the foot of the shade trees and arrest your steps at every turn and crossing; and out on the hills, you can trace the wider, canal-like ones that bring the water from the river miles away. It seems ludicrous, you must allow; but without it there would be no Denver. And they believe in it, those people—as religiously as we of Kansas believe in our rain-fall. Indeed, I fancy use has so accustomed them to it that they think it an improvement on the ordinary method of moisture. They even try to invest it with a sort of scriptural radiance. God first placed man where the earth was watered by rivers, they say: now he is to be brought back.

After two days of Denver,—red letter days, they were, in the calendar of our journeyings,—we boarded the cars again and faced homeward, by the Smoky Hill route of early times. That the party was thoroughly surfeited with pleasure was easily to be seen, for the curtains were lowered over the windows, and every married man sat in the seat with his own wife. Right at our backs, just out of Denver, was still to be had what is perhaps the finest of all views of the mountains; but very few of us cared to turn around for it. We could not think it possible that we had left unseen anything worth looking at. Besides, we were fatigued with mountains, and wishing for a swift change to the candid and familiar beauties of the prairies.

The first Kansas "Peakers," passing over the tiresome plains on their return from the mountains in 1858, picked up a fragment of a St. Louis paper on which they read, "The Pike's Peak gold excitement is on the rapid increase;" and as they had themselves panned the first gold, of which they had written nothing home, they wondered how any "excitement" could have been raised about it. They did not know that, months before, vague rumors of their gold had reached Kansas, and that an editor sitting in his office at Fort Scott, cudgling his brains for copy, said, "I believe I'll make the story public." George A. Crawford was at his elbow to second the inspiration. "But if I write the thing up," he went on, "and it proves a fraud, they'll hang me." So he tossed a copper to decide his course; and it fell for the Peak. The editorial was written, in good bright colors; that St. Louis paper copied it; and from there it went through the country like a call to arms—with what ultimate results not even a Kansas editor would have dared to predict.

It is all clear now; and we know why the man who wrote that decisive editorial was not hung. The nimble copper came right side up, for it gave us Colorado. Such was the sentiment with which we steamed away from the receding mountains, that blue and beautiful morning; and we abated no jot of it, I am sure, when at the closing of the day, in the oncoming persuasive twilight, we crossed the State line, and sent up a right royal cheer for our own matchless Kansas—first in war, first in peace, and first in the hearts of all her people.

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, AUGUST 25, 1877.

No. 19.

THE INDUSTRIALIST.

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PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

National Agricultural Congress.

The sixth annual session of the National Agricultural Congress will be held at the Grand Pacific Hotel, in the city of Chicago, on Tuesday, Wednesday and Thursday, Sept. 25th, 26th and 27th, 1877, commencing at ten A. M., on Tuesday.

All agricultural societies, boards of agriculture, agricultural departments, agricultural colleges, agricultural periodicals, granges, farmers' clubs, and other organizations whose object is the promotion of agriculture in the United States and in British America, are requested to send delegates; and all persons desiring to promote the objects of the congress are cordially invited to attend and to participate in its deliberations. It is suggested and requested that in each State an effort be made to send at least one delegate from each of its congressional districts.

Specimens of agricultural products; such as the small grains, corn in the ear, fruits, nuts, seeds, grasses and other forage plants, tobacco, hops, cotton, hemp, flax, sugar, wool, dairy products, etc., are solicited for exhibition and for the comparison of the similar products of different parts of the country.

The Grand Pacific Hotel, which will be the headquarters of the congress, will furnish a spacious hall for the meeting, and an adjoining room for the display of articles on exhibition.

The Chicago Inter-State Exhibition will be open during the meeting of the congress, and delegates will have the advantage of such reductions of fare as may be extended to other visitors, and an opportunity of visiting the finest exhibition of the agricultural, mineral and manufactured products of the north-west.

We earnestly solicit the special co-operation and attendance of the officers of the various departments and boards of agriculture, State agricultural societies and agricultural colleges, and of the editors of agricultural periodicals throughout the country. On the efforts of these three classes of educators the advance of agricultural intelligence largely depends; and consultation with one another, and with representatives of the agricultural class, will do much to direct and energize their work.

ORDER OF BUSINESS.

Tuesday, September 25, 10 A. M.—Call to order. Prayer. Address of welcome by John P. Reynolds, ex-president of the congress, and response by the president. Appointments of committee on credentials. Address by the president: "Local Self-Government in Agricultural Communities."

3 P. M.—Report of committee on credentials. Election and admission of members.

Payment of dues. Appointment of committees on nominations. Resolutions, etc. Reports of standing committees. Presentation of miscellaneous business. Address by Prof. C. V. Riley, chief of the United States Entomological Commission, on "The Rocky Mountain Locust and the Army Worm."

8 P. M.—Address: "The Distribution of Wealth," by Dr. J. M. Gregory, regent of the Illinois Industrial University. Discussion.

Wednesday, September 26, 9 A. M.—Reports of standing and special committees. Address: "The Principles of Fertilization," by Prof. Levi Stockbridge, of the Massachusetts Agricultural College. Discussion.

3 P. M.—Address: "Industrial Education in the Gulf States," by Dr. I. T. Tichenor, president of the Agricultural and Mechanical College of Alabama. An essay upon "Agricultural Education in Bavaria," by Prof. B. Warder, of the University of Cincinnati. Discussion.

8 P. M.—Address: "The Railroads and their Relation to the Public," by the Hon. J. Sterling Morton, of Nebraska. Discussion.

Thursday, Sept. 27, 9 A. M.—Address: "The Commercial Movements of Produce," by George A. Martin, of the Buffalo Commercial Advertiser. Discussion. Address: "Our Agricultural Newspapers," by G. Sprague, Des Moines, Iowa, editor of the Western Farm Journal.

It Don't Pay.

Many farmers are complaining that it don't pay to raise corn, hay or grain at the prices we get. Well, then, why do you raise it and sell it to the grain dealer to impoverish your land year by year as well as yourself; why not feed it to stock and realize not only a better price but gain a profit on the stock as well. By growing the crops in the summer and feeding them out in the winter there is no time lost, but if stock cannot be procured change the programme and raise a different variety of crops and commence even on a small scale to breed up stock to eat the crops of the farm. But you say stock don't pay; we will admit that scrub stock don't pay, but if you will use only thoroughbred bulls, boars and bucks, and raise good grade cattle, hogs and sheep, that mature earlier, grow larger, and command a higher price, you will consume no more time or trouble in feeding and but little more feed, and have the handsome difference for your profits.

It don't pay in these times of progress and improvement to farm altogether by muscle. Farmers as well as other business proprietors must read and think for themselves. A farmer will see something of practical value in every agricultural paper he reads; in the suggestions, thought and experience of other practical farmers.

Then you will find a farm will pay if improved stock for the butcher is raised, and all the crops of the farm fed up, and with a diversity of crops and a pleasant home, with the attractions of good papers, books and music, a good garden of vegetables and

an orchard of fruit. Such a farm will keep the boys at home and with a pride and an interest in the farm, the stock, and the home, prosperity and happiness is assured to every such western farmer.—*Western Agriculturist*.

Little by Little.

If you are gaining little every day, be content. Are your expenses less than your income, so that though it be little, you are constantly accumulating and growing richer and richer every day? Be content; so far as concerns money, you are doing well.

Are you gaining knowledge every day? Though it be little by little, the aggregate of the accumulation where no day is permitted to pass without adding something to the stock will be surprising to yourself.

Solomon did not become the wisest man in the world in a minute. Little by little, never omitting to learn something even for a single day, always reading, always studying a little between the time of rising up in the morning and lying down at night; this is the way to accumulate a full store-house of knowledge. Finally, are you daily improving in character? Be not discouraged because it is little by little. The best men fall far short of what they themselves would wish to be. It is something, it is much, if you keep good resolutions better to-day than you did yesterday, better this week than you did last year. Strive to be perfect, but do not become downhearted so long as you are approaching nearer and nearer to the high standard at which you aim.

Little by little fortunes are accumulated; little by little knowledge is gained; little by little character and reputations are achieved.

Starting in the World.

Many an unwise parent labors hard and lives sparingly all his life for the purpose of leaving enough to give his children a start in the world, as it is called. Setting a young man afloat with money left him by his relatives is like tying bladders under the arms of one who cannot swim; ten chances to one he will lose his bladders and go to the bottom. Teach him to swim, and he will never need the bladders. Give your child a sound education, and you have done enough for him. See to it that his morals are pure, his mind cultivated, and his whole nature made subservient to laws which govern man, and you have given what will be of more value than the wealth of the Indies.—*Western Agriculturist*.

The farmer distant from a market is always impoverishing his land.

No agricultural people can prosper and purchase their bread and meat—a manufacturing community may.

EARLY stirring, or early plowing, as the thing for big yields of wheat, is a conclusion pretty generally arrived at by a majority of our farmers who have had the most experience.

THE INDUSTRIALIST.

SATURDAY, AUGUST 25, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

As THE term of the Agricultural College opens earlier than is customary, the press will confer a favor by stating that its session began August 23d.

THERE are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but who are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.

Kansas War.

The latest war is that between Empire City and Galena, in the lead region. These metropolitan centers are rival towns on Short Creek, and stick so closely to business that on two sides they use the same boundary lines, probably for purposes of economy. Short Creek, to which the inhabitants of both cities resort for water, runs through Empire, and, in order to starve out the Galena folks, the Imperial authorities built a stockade around Galena but within their own limits. The final gap was to have been closed last Tuesday, when the bloody-minded cohorts of each city assembled in ferocious array. The mayor of Galena proclaimed the stockade as a public nuisance interrupting the highway, and called upon all law-abiding people to remove said nuisance. The Imperial mayor called on his subjects to preserve the public property of Empire City, threatened by a ruthless mob. The war lasted all day; one man was shot in the leg; the Galena vandalic patriots by a reckless and demoniacal use of coal oil burnt the stockade; and the mayor of Empire has called on Governor Anthony for troops to preserve the public peace. That is all we know about the latest war.

There are nice points on both sides. Water is generally supposed to be a convenience if not a necessity, and creeks are usually considered as public property in such a sense that a citizen of an adjacent section or even county may use the water thereof. On the other hand, the high and mighty prerogatives of cities of the going-to-be class, as jealously defended and exercised by their royal excellencies the mayors, are not to be sneezed at with impunity, nor is city territory to be trespassed upon in defiance of the expressed statutes of Kansas.

We are flat-footedly on either, each and both sides of this war, between the hours of

9 A. M. and 4 P. M., Sundays excepted, and will always be found everywhere except on the bristling top of that cottonwood stockade. The struggle is peculiarly Kansan. It smacks of the frontier, land agents, and rival town companies. It is a fragrant puff from the garden of the past, and as a newspaper man we rejoice in any puff that brings twenty cents a line.

HOURS.	PROF. ANDERSON.	PROF. WARD.	PROF. KEDZIE.	PROF. SHELTON.	PROF. GALE.	PROF. PLATT.	JOHN D. WALTERS.	CAPT. TODD.	A. A. STEWART.	W. C. STEWART.	MRS. CRIPPS.	MISS STEELE.
FIRST HOUR. 8:40-9:30.		Rhetoric. (2)	Chemistry. (3)	Practical Agriculture (4)		Drill in English, "A." (1)	Drawing. (1)	Carpentry.	Printing.	Telegraphy.	Special Hygiene. (1)	Music.
SECOND HOUR. 9:30-10:20.	Political Economy. (4)			Physiology. (2)		Drill in Arith., "B." (1)	Drawing. (3)	Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
THIRD HOUR. 10:20-11:10.		Algebra. (2)	Mineralogy and Geology. (4)			Drill in Arith., "A." (1)		Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
FOURTH HOUR. 11:10-12:00.				Botany. (3)		Drill in English, "B." (1)		Carpentry.	Printing.	Telegraphy.	Sewing.	Music.
FIFTH HOUR. 12:00-12:50.		Algebra. (2)						Carpentry.	Printing.	Telegraphy.	Sewing.	Music.

Term Beginning Thursday, August 23rd, 1877, and Closing Thursday, December 20th, 1877.

TIME-TABLE OF THE KANSAS STATE AGRICULTURAL COLLEGE

Historical.

We have received a copy of a circular issued by the State Historical Society, which shows not only that the society has undertaken a work of great magnitude, but one which ought to engage the co-operation of every person in Kansas who has a just appreciation of the duty of the present generation to gather up and preserve the scattered materials of the eventful period of our early history. The circular mentions the following among the objects of collection relative to Kansas desired by the society, and the contribution of which is earnestly solicited:

1. Travels and explorations; city directories; copies of the earlier laws and journals of our legislature; ordinances of cities; and in short every book, on any subject, printed in the State or elsewhere, relating to it.

2. Pamphlets of all kinds; catalogues of Kansas colleges and other institutions of learning; annual reports of societies; sermons and addresses delivered in the State; minutes of church conventions, synods, or other ecclesiastical bodies of Kansas; political addresses; railroad and board of trade reports; pamphlets relating to this State.

3. Files of Kansas newspapers and magazines, especially complete volumes of past years, or single numbers even. Publishers are earnestly requested to contribute their publications regularly, all of which will be carefully preserved and bound.

4. Materials for Kansas history; old letters, journals and manuscript narratives of the pioneers of Kansas; original papers on the early history and settlement of the territory; adventures and conflicts during the early settlement, the Indian troubles or the late rebellion; biographies of the pioneers of every county, either living or deceased, together with their portraits and autographs; a sketch of the settlement of every township, village and neighborhood in the State, with names of the first settlers. We solicit articles on every subject connected with Kansas history.

5. Maps of towns, cities or counties, of any date; views and engravings of buildings or historic places; drawings or photographs of scenery, paintings, portraits, etc., connected with Kansas history.

6. Curiosities of all kinds; coins, medals, paintings, portraits, engravings, statues, war relics, autograph letters of distinguished persons, etc.

7. Facts illustrative of our Indian tribes; their history, characteristics, religion, etc.; sketches of our prominent chiefs, orators and warriors, together with contributions of Indian weapons, costumes, ornaments, curiosities and implements, also stone axes, spears, arrow heads, pottery or other relics of the pre-historic races.

In brief, everything that, by the most liberal construction, can illustrate the history of Kansas, its early settlement, its progress or present condition; all will be of value or interest to succeeding generations.

Communications or gifts may be sent to F. G. Adams, secretary of the society, at Topeka, who will promptly answer all correspondence, and make due acknowledgment of everything deposited in the collection of the society.

THE catalogue of the Agricultural College is just published. Send for a copy.

THE INDUSTRIALIST.

SATURDAY, AUGUST 25, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

The new barn received its first consignment on Thursday. It was a load of hay.

The catalogue, which is now ready for distribution, will be mailed to the press this week.

Miss Carrie Steele, teacher of instrumental music in the College, is boarding at Major Adams'.

Mrs. Peckham and Mrs. Dr. Vail each desire four student boarders. Rates made known on application.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

Mr. Marcell, editor of the *Ottawa Republican*, called upon us last week. His sister, Miss Mollie Marcell, accompanied him, and will attend the College the present year.

A hailstorm visited the north-west part of the county last Thursday and did great damage. Three days after the storm, hailstones were eighteen inches deep in places, according to *Nationalist*.

It is stated that Major Ogden's monument, on the hill near Fort Riley, "is within one hundred and fifty yards of the geographical center of the United States, between the oceans, ascertained by actual survey."

Capt. Todd's wife, two sons and sister-in-law returned from their visit East last Saturday evening. They report a very pleasant trip, having visited Providence, Boston, New York, Niagara Falls, and many other places of interest.

George Platt, who has been teaching music in Vienna this vacation, has returned to the College to resume his studies. We understand he had abundant success with his scholars,—especially the lady portion of the class.

Miss Hattie Whitney was married to Mr. Cyrus Foltz, of Zeandale, on Thursday evening last. The ceremony was performed by Rev. R. D. Parker, and those who attended pronounce the wedding a very pleasant affair.

The term began last Thursday morning, and the time since has been occupied in the examination of new students, of whom a large number are present, and the assignment of old ones. Recitations will begin regularly on Monday morning.

Prof. Platt's family returned from Illinois last Friday evening, looking hale and hearty. They spent some two months in going and coming, and the Professor gives a very good report of the prosperous condition of the country through which he traveled during that time.

Old students will be happy to learn of the marriage of Mrs. H. C. Cheseldine, which took place in Manhattan last Sunday morning. Her husband's name is H. B. Richards, and he is engaged in some department of the railroad business at Lawrence, Kansas. Mrs. Cheseldine was once a teacher in the College. Verily, as has been said, there is "quite a mortality among the widows" of Manhattan.

C. O. Smith, who has been working in this office during vacation, will start for Emporia this evening, to make his parents a three weeks' visit. Mr. Smith entered the Printing Department last January, has constantly improved his time and carefully followed the instructions given, and is now

able to bear testimony by his work to the fact that printing can be successfully taught here. We trust he may fully enjoy this respite from his studies, and return prepared for their vigorous prosecution during the collegiate year.

The Alpha Beta Society held the first meeting of the term yesterday afternoon. No superior officers being present, Society was called to order by the Treasurer, A. A. Stewart. After an instrumental on the organ, by George L. Platt, and devotion, Amos E. Wilson was chosen Secretary *pro tem*, and the Society proceeded with the election of officers, which resulted as follows: President, Wm. H. Sikes; Vice-President, George L. Platt; Secretary, Miss Gracie Parker; Corresponding Secretary, Albert H. Stiles; Treasurer and Librarian, A. A. Stewart; Marshal, Amos E. Wilson. Election of directors postponed for two weeks.

The names of Miss Emma L. Cook, Miss Nena M. Wilson and Augustus H. Platt were proposed, and they were recommended for admission into the Society.

This being the first meeting of the term, no programme had been prepared, and the only literary exercise for the afternoon was extemporaneous speaking. All the members took part, expressing themselves as having spent a pleasant vacation, and returning with the intention of taking an active part in the Society and doing what they can to promote the objects for which they are associated.

The following duties were assigned: Essay, Miss Parker; declamation, Charles McConnell; select reading, A. H. Stiles. Question for debate, "Resolved, That lady teachers are preferable to gentlemen in a district school." Affirmative, Amos Wilson and George Platt; negative, Wm. Sikes and Albert Stiles.

REPORTER.

We take the following items from this week's *Nationalist*:

Wm. Hill, Esq., raised about 500 quarts of blackberries on a third of an acre of land this season.

Mrs. John A. Anderson returned to Manhattan on Tuesday, after a pleasant vacation in Colorado and at her old home in Junction City.

There will be an examination by the State Board of Education of candidates for State certificates and diplomas on Sept. 4th, 5th and 6th in Manhattan, Clay Center and other places. Also a county examination in the primary school building, Saturday, Sept. 9th.

A tour through Senator Well's orchard, a day or two since, elicited many exclamations of surprise and delight. The boughs of some trees were bent to the ground. The Senator expects to realize about \$5,000 this year from his fruit. Does fruit growing pay?

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets.

Bookseller and Stationer.—S. M. Fox dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127 Poyntz Avenue, Manhattan.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan.

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas.

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas.

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for *one-eighth cash*, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are *all choice selections*, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are *well worth the money*. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

Printing!—Daily instruction and drill in the work of a First-Class Printer. The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that taste necessarily exercised by every good Job Printer. The Printing Department is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer. Besides regular class instruction in printing, the weekly publication of the *INDUSTRIALIST* by the Department furnishes advanced students the requisite drill in newspaper work.

A Kansas Text-Book, for teachers and students. *ELEMENTS OF AGRICULTURAL GEOLOGY*, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

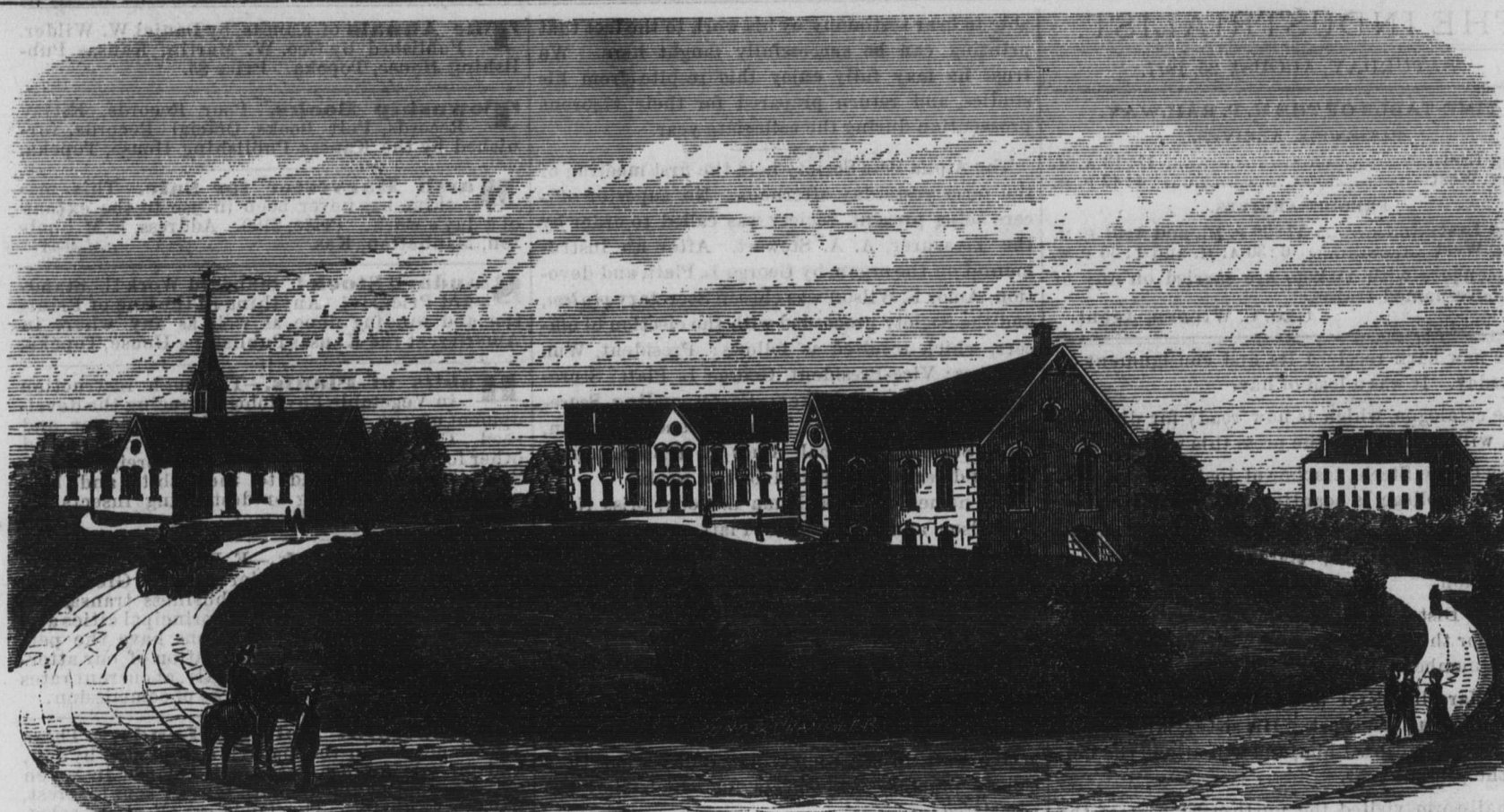
Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas.

Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the *KANSAS FARMER* very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks"*. I read your *FARMER* with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the *KANSAS FARMER* as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas.

88-3m



Laboratory Building.

Mechanical Building.

Horticultural Building.

College Building.

KANSAS STATE AGRICULTURAL COLLEGE.

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied

operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

The Farm Department State Agricultural College

Offers for sale

YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWS. Also, a very fine lot of

BERKSHIRE PIGS, eligible to record and the get of the celebrated boars Lord Liverpool and British Sovereign II. We have also for sale a few choice

ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, Sup't Farm,
Manhattan, Kansas.

(11-tf)

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Dress-Making and Millinery.—Daily instruction and drill in hand and machine sewing; cutting, fitting and making dresses; and all branches of millinery, by a practical teacher.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, SEPTEMBER 1, 1877.

No. 20.

THE INDUSTRIALIST.

Published every Saturday by the
PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

EVERY-DAY ENGLISH.

"English Grammar"—So Called.

BY RICHARD GRANT WHITE.

"Ah, it's me," said Mr. Squeers, "and me's the first person singular, nominative case, agreeing with the verb its, and governed by Squeers understood; as a acorn, a hour; but when the *h* is sounded, the *a* only is written, as a hand, a heart, a highway." This delicious passage is, like most all of its author's writing, a caricature, but a caricature full of life and truth. The reason of it being so exquisitely laughable is not because of its representation of the ignorance of the school-master, the union of the pedagogue and the ignoramus having been often presented before; but because it presents in a compact and ridiculously impressive form the vague, confused memories left in most minds by the study of that absurd and utterly useless branch of education, English grammar. It is constructed with admirable art. The blunder in the person and case of *me* and the making the noun agree with the verb, the confused reference to its as a verb, the single syllable really containing the verb *is*, make a ridiculous muddle; but this would have failed of its present effect without the introduction of that sage and mysterious formula of "parsing" which completes the analysis, "and governed by Squeers understood." The climax is capped by the "as" introducing, in the manner of grammarians, an example which is entirely from the purpose, and which is not only confused and erroneous, but, with all its absurdity, so characteristic an example of the style of illustration in English grammar that every person who has been put through the bewildering discipline of that study recognizes on the instant the condition of his own mind at some period of his pupilage. Dickens is the great master of this sort of word caricature—that which represents a confused recollection of facts and an inconsequent, disconnected succession of thoughts. Shakespeare did it, of course, as he did everything. But he did it merely by the way, in passing. Dickens lays himself out on it, elaborates it, and rises with it to the height of the ridiculous—in Mrs. Gamp, for instance, and Flora, in *Little Dorrit*.

I believe that I have not overstated the case in saying that Mr. Squeers' amazing effort in parsing is a mere caricature of the impression left upon most minds by the study of English grammar. I know that there are some persons who have not yet written English grammars—the existing number of which, however, shows that a very large proportion of the English-speaking race must have engaged at one period

or an other in that cheerful occupation—but who, mute, inglorious Lindley Murrays and Gould Browns, do believe that to speak and write "good grammar" is the highest attainable point in education, and to whom a sentence, albeit uttered by the Supreme Wisdom amid thunderings and lightnings, is chiefly something that may be parsed. But these people are specialists, and partake of the insanity that pertains to specialism. Those who I expect will agree with me are the mass of intelligent people to whom language is merely the means of communicating facts and thoughts.

I have called English grammar an absurd and useless study; and I verily and soberly believe it to be so. Its absurdity I hope to show in consideration of its rules and methods; its uselessness will appear upon a brief glance at the history of English literature. I believe that the effect of the study of English grammar, so called, is to cramp the free action of the mind, to bewilder and confuse where it does not enfeeble and formalize, to pervert the perception of the true excellence of English speech, and, in brief, to substitute the sham of a dead form for the reality of a living spirit.

Grammar is at war with common sense. And I must say here that by grammar I mean formal grammar, that system of language which constructs sentences upon the correspondence of the forms of words, or, where there are no forms or few, upon the imaginary relations of words, instead of logical order of thoughts. And by saying that grammar is at war with common sense, I do not mean that it is inconsistent with sense; for that would be to relegate to the realms of nonsense much of the profoundest wisdom, the most beautiful imagination, and the most delightful humor that past ages have given to the world. By common sense we mean that faculty of perceiving the practical relation of things, which is the best guide through life, which may exist in an uneducated and very common-place mind, and which may be entirely lacking in one which is stored with learning or gifted with creative genius. This faculty exists in a greater degree in some races than in others. The Anglo-Saxon race are distinguished by it; they are pre-eminently a people of common sense.

The fact that grammar—formal grammar—is at war with common sense is shown by the history of language. It might naturally be supposed that with all the advancement of civilization and the perfection of literary skill, grammar would become more elaborate, if not more complicated, that as life became more complex and society more polished, language, the chief means of intellectual development and social progress, would, with equal steps, become more complex and elaborated. The contrary is the case. The further we go back in the history of the world, the more complex we find language, the more minutely varied and numerous are the forms of words, the more elaborate the construction of the sentence. The grammar of the oldest, written language known—the Sanscrit

—is of all the most complicated, and the rivals of Sanscrit in this respect are the languages of some utterly barbarous peoples. The supply of grammar before the time of the Tower of Babel must have been something quite inconceivable at the present day. As the world has advanced it has laid aside gradually the unessential in language; it has dropped forms of words which expressed minute shades of meaning as to time and other relations, and has accomplished the ends for which those forms were made by simpler methods, the change always being destructive of formal grammar.

All languages, living or dead, show in their history the progress of this change; but it appears most in the Anglo-Saxon of English language, in which formal grammar might be said to have entirely disappeared, but for a very small number of "survivals," which are to be found in a few forms of pronouns and verbs. In this the distinguishing common sense of the English race is eminently apparent. It is not certain that this deformalizing of the English language has yet reached its end; for example, the distinction between *who* and *whom* seems to be disappearing, and I believe will disappear; and the retention of these forms may be due, on the one hand, to a common-sense view of their practical usefulness, or on the other, in pronouns at least, to the immobility of those most ancient of all the elements of language.

That pronouns are and must inevitably have been the oldest words in language, those representing the first ideas present themselves to the human mind—the me and the not me—and that they are not the mere make-shifts which their grammatical name implies, I think could be easily shown. But that is not to our purpose.

[Concluded next week.]

A correspondent of the Louisville Reporter says:

We have kept a strict account of the growth of corn this year. The result was as follows: Allowing ten days for corn to come up, planted the 1st of May, it averaged one-half inch per day up to May 20th; to the 15th of June three-fourths of an inch; to the 30th of June one and one-half inches; to the 10th of July four inches; to the 15th of July five inches, when it almost stopped tasseling, and began sending forth silk and ears.

KANSAS silk worms fed on the leaf of osage orange seem to be exempt from disease, and the cocoon is esteemed superior in quality to those from the mulberry. The experiment of silk growing in southern Kansas has so far proved a success, and eminently so. Practical men predict that Kansas will become one of the most profitable silk growing countries in the world. If it can be done, the Kansas people will do it,—for they don't know how to fail in any legitimate undertaking.

It is a waste of time to swear at flies,—they don't understand the language.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 1, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

AS THE term of the Agricultural College opens earlier than is customary, the press will confer a favor by stating that its session began August 23d.

WE mailed a postal this week to publishers asking for certain information. It may be some days before any action can be taken.

THE Board of Regents stands adjourned to meet Tuesday, September 11th, 8 P. M.; of which fact the visiting brethren will please take due notice and govern themselves and everybody else accordingly.

WE have received an announcement from Rand, McNally & Co., Chicago, of a new book, by Prof. Chas. V. Riley, on the Locust Plague, with practical recommendations for its destruction, which book everybody will want to read. We look for it with great interest.

DOES that picture of the State Agricultural College, published in the INDUSTRIALIST, exhibit all the trees there are on the College grounds? If it does, President Anderson had better obey the injunction so often repeated in Kansas papers, and "Plant Trees."—[*Atchison Champion*.]

"Never not by no means." Hundreds of trees have been planted and hundreds more will be this fall and next spring; only we didn't "cut" them.

AND this is the way in which Capt. Ewing, of the *Thayer Headlight*, "takes position" on the temperance question. A good deal is said every now and then about an "independent press," but an editor who, because of a belief in principle, fires into the teeth of the majority of his patrons, shows that he really believes something and sticks to it under difficulty. That is true independence:

PRAYER.—We are anxious to hear the next prayer of a regular old pulpit-pounder of Thayer who signed Ann Thompson petition for license. It sounds so consistent to hear him at the school-house clawing the air with both hands and bellowing to the Lord, and then think of him praying the city council to let Ann Thompson sell whiskey. He must be extremely happy in thus praying Good Lord and Good—city council of Thayer. He is like the Oirish jintleman that prayed to both because he did not know whose hands he was going to fall into.

ON returning to the exchanges once more, we find the European letters of Noble L. Prentis in the *Topeka Commonwealth*. But one subject in the universe has been more persistently written up than Europe,

and that was in the early days of Kansas antiquity, when George W. Martin used to wrestle in the *Union* with "Junction City sawed stone." But, notwithstanding the triteness of the subject, Prentis' descriptions are so thoroughly natural, and so numerous punctuated with witty hits, that every one will enjoy their humor and originality. He is a close and quick observer, has a memory like a steel plate, does his own thinking in a majestically Kansas way, and rolls off his ideas on paper with that royalness of funny impudence which only comes from great natural adaptiveness and long editorial practice on a Kansas daily.

Grasshopper.

For several days that remarkably interesting whelp, the hopper-grass, has been airing his impudence somewhere between this and the sun. There isn't any use in denying the fact on the one hand, or in becoming frightened on the other. The course pursued by the *Atchison Champion* on this subject last season strikes us as being the best for Kansas, as well as the more manly one. We did have 'hoppers, and, contrary to the worst appearances, they did no special harm to the State at large.

Thus far the flying swarms have not descended in any number, and even if they should it by no means follows that they would do any great damage, though they might. So far from being the original tribe of Cheap Johns, they are probably a degenerate race who have worn out the most of their vitality and cussedness on the stunted vegetation of Nebraska, Minnesota, etc.; and even should they deposit eggs in Kansas, the experience of last season amply proves that our farmers can stamp them out by systematic effort. The *Champion* expresses the probabilities of the case as follows:

Prof. Riley says there is no danger of a visitation from any considerable number of them this fall, and in this opinion Profs. Packard and Thomas, his associates of the National Entomological Commission, concur. We have great faith in their statement. They are certainly better posted than we are on this question, and they say what they believe.

Money in Good Roads.

No State has better natural road-beds than Kansas, and in none is a less expenditure of labor really needed. At the same time it is questionable whether, even in those States which have but half the natural advantages and enterprise possessed by Kansas, practically worse roads will be found than here. It is a good thing to blow about the admirable roads which we might have by a little systematic attention and work, but it would be a good deal better thing if every township in the State should furnish its farmers with such

thoroughfares to towns as would enable them to haul full instead of half loads.

The value of a road is not to be determined by the number of miles of smooth level, but by the bad places in it—the steep pulls, sharp ravines, mud holes, and long, roundabout corkscrewings. Take a five-mile drive, over all of which a team can haul a ton excepting three places, one a muddy crossing of a creek, another a sharp ravine, and another a steep hill over a knob, and suppose that only half a ton can be pulled across these places; it is evident that the capacity of the whole drive is reduced to a half load, and also evident that if a bridge were put over the creek, a cut and fill at the ravine, and the right of way purchased by the county around the knob, the capacity of the whole road would be doubled, that is, any man could haul at one load the wheat which now requires two loads.

These things are simple enough and clear enough to anybody; but there is too often the feeling that if the road between John Smith's house to town is good, it makes no difference to him how bad it may be beyond his house. That may be true, provided he never drives anywhere else than to town; but how about John Smith's neighbors? Have they no rights in the case? They are citizens, tax-payers and voters; but, because of a slough on his line are forced to spend thirty days a year in hauling the same amount of produce that he hauls in fifteen days. Is there any equity in the district allowing him to make a double profit in transportation because he doesn't want to pay his share of the road tax? As compared with his neighbors, John Smith makes two profits which they do not; first, he does his hauling at one-half the expense, and, second, he saves the road tax. These two profits represent the cash cost of the bad place in that road to each of his neighbors who has to cross it.

Why don't the farmers really wake up in this matter? Every mud-hole, steep pitch, and roundabout is just so much cash out of their pockets; and, as laws are provided for the case, the fault is their own if bad places are suffered to remain. There is not a single road entering the towns of Manhattan or Junction City which, within five miles, has not at least five places that reduce its hauling capacity fully one-half. Each of these places in the course of the year costs the farmers, merchants, doctors and travelers an aggregate of many hundreds of dollars, and each could be fixed at a small outlay of labor. The same statement is probably true of every town in Kansas; and the press could not do a better thing than to concentrate its fire on the road overseers and county commissioners until the roadways are brought up to their full and equitable capacity.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 1, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.
Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.
Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending August 31st, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Friday.....	25	80°	62°	74°	28.60
Saturday.....	26	91	67	81	28.61
Sunday.....	27	92	67	82	28.82
Monday.....	28	91	63	83	28.86
Tuesday.....	29	93	68	82	28.93
Wednesday.....	80	93	71	82	28.81
Thursday.....	31	96	54	83	28.77

Average temperature for the week, 81° 28.
Range of temperature for the week, 42°.

Prof. Kedzie's mother arrived in Manhattan Thursday evening.

And now Thomas Morgan rejoices because of the addition of another son to his family.

Send for the new catalogue of the Agricultural College and a sample copy of the INDUSTRIALIST.

On Sept. 10th, Miss Cassie Moore will begin a term of school in the St. John distict, across the Kansas.

W. C. Howard has been employed to teach a six months' school at Plowboy, Shawnee county. His school opens on the 17th inst.

George Perry is to teach the school in the Campbell district, north-west of the College. He begins his labors next Monday.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

Frank Quinby surprised us with his genial presence on Thursday last. He reports a healthy condition of things at Wakefield and vicinity.

Harry C. Rushmore has obtained the position of station agent at Grantville on the Kansas Pacific Railroad. Harry gained his knowledge of telegraphy and railroad office-work at this Institution.

We have had three exceedingly hot days this week. Friday noon the thermometer indicated 102° in the shade on College Hill. This morning, however, a chilly wind is blowing from the north, a cold rain is falling, and altogether the weather is very appropriate to the first fall day.

A very sad accident befell Mr. Jesse Ingraham on Thursday last. He had been at work with a team, but, on account of the extreme heat, stopped to rest. After a short nap, he awoke and began brushing the flies from off one of his horse's legs, whereupon the horse turned and dealt him a heavy and dangerous blow under the eye, inflicting a very ugly and painful wound. Mr. Ingraham succeeded in getting to his house, but was unable at the time to tell how he came to be all covered with blood and so badly injured. Medical aid was sent for, and we are told that for a while his life was despaired of, but now it is believed that he may recover. This is a very busy season with Mr. Ingraham, and we regret this affliction which has come upon him.

Mr. A. N. Godfrey, one of our students from Greenwood county, placed upon our table last

Friday afternoon some fruit as fine as the State produces. There were two varieties of apples and one of peaches. The peaches were Crawford's Late, one variety of the apples was Haskell's Sweet, and the name of the other Mr. Godfrey had forgotten. These specimens were very large, especially the peaches, and proved to the taste fully as good as they looked. Mr. Godfrey tells us that his farm produced this fruit and much more like it, which would rather seem to indicate to the average man that if Kansas is a land of drouths, grasshoppers and chinch-bugs, it manages to produce as good fruit as is anywhere exhibited. Many thanks, Mr. Godfrey, not only for the delicious fruit, but for this additional testimony in favor of fruit growing in Kansas.

The facilities afforded in the Agricultural College for instruction in music are first class and effective in every respect. Prof. Platt, who is one of the most experienced and successful teachers of singing in the country, has regular classes in vocal music, open to any and all students without charge. We have frequently attended these meetings, and have never seen students advance more rapidly, or keep better time and harmony. The class begins this term with a large number of pupils, and, as heretofore, a hearty interest will be taken in it.

The instruction in instrumental music is given by Miss Carrie Steele, who comes with the highest recommendations as a performer and teacher. She is making many friends and begins the term with a good class, which will steadily increase in numbers. A charge of \$12 per term of twenty weeks is made in this department.

Our Fall Term begins some weeks earlier than is customary with colleges. This difference is occasioned by the closing of the Spring Term as early as possible in May, for the purpose of enabling the students to engage in farm work at home. Heretofore the arrangement has worked very well, but it so happens this year that, owing to the lateness of the season, the farmers of the State are about as busy as they well can be, and, as a result, many of our students will be kept at home for some days yet. At this date of last year, wheat was rolling into Manhattan as fast as teams could haul it, while this year five hundred bushels have not been delivered. The bulk of the threshing and much of the haying is yet to be done. We have never had more inquiries respecting the College, and there is every prospect that in the course of a few weeks an unusually large number of students will be present, but they are coming in slowly.

The Webster Society held its first regular meeting in the Telegraph Hall on Saturday evening, August 20th, at eight o'clock.

As neither the President nor Vice-President were present, the meeting was called to order by the Secretary, L. A. Salter.

After roll-call and prayer, the Society proceeded to the election of officers for the ensuing term, with the following result: President, A. N. Godfrey; Vice-President, Irving Todd; Secretary, W. T. Eckman; Treasurer, H. J. Harvey; Corresponding Secretary, L. A. Salter; Critic, John Mann; Marshal, C. S. Buell; Reporter to INDUSTRIALIST, L. A. Salter.

After a short recess, the following question was selected for debate at the next regular meeting: "Resolved, That the Society would be more prosperous if it contained lady members." Chief disputants, Messrs. Todd and Harvey.

After a very agreeable meeting, the Society adjourned to meet at the same place next Saturday evening, September 1st, at 8 o'clock. All students are invited.

REPORTER.

Miss Nena M. Wilson left Wednesday morning for Manhattan, where, with her brother, she will attend the Agricultural College.—Enterprise Gazette.

We take the following items from this week's *Nationalist*:

The College buildings have been repaired and painted, and look quite as State buildings ought to look.

The new College catalogue is out, and reflects credit on the printers. We have not yet had time to examine the contents.

A correspondent of the Louisville *Reporter* speaks quite highly of George Platt who has been teaching school near Vienna during the College vacation.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas. 9-1f

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Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

A Kansas Text-Book, for teachers and students. **ELEMENTS OF AGRICULTURAL GEOLOGY**, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

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Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for *one-eighth cash*, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

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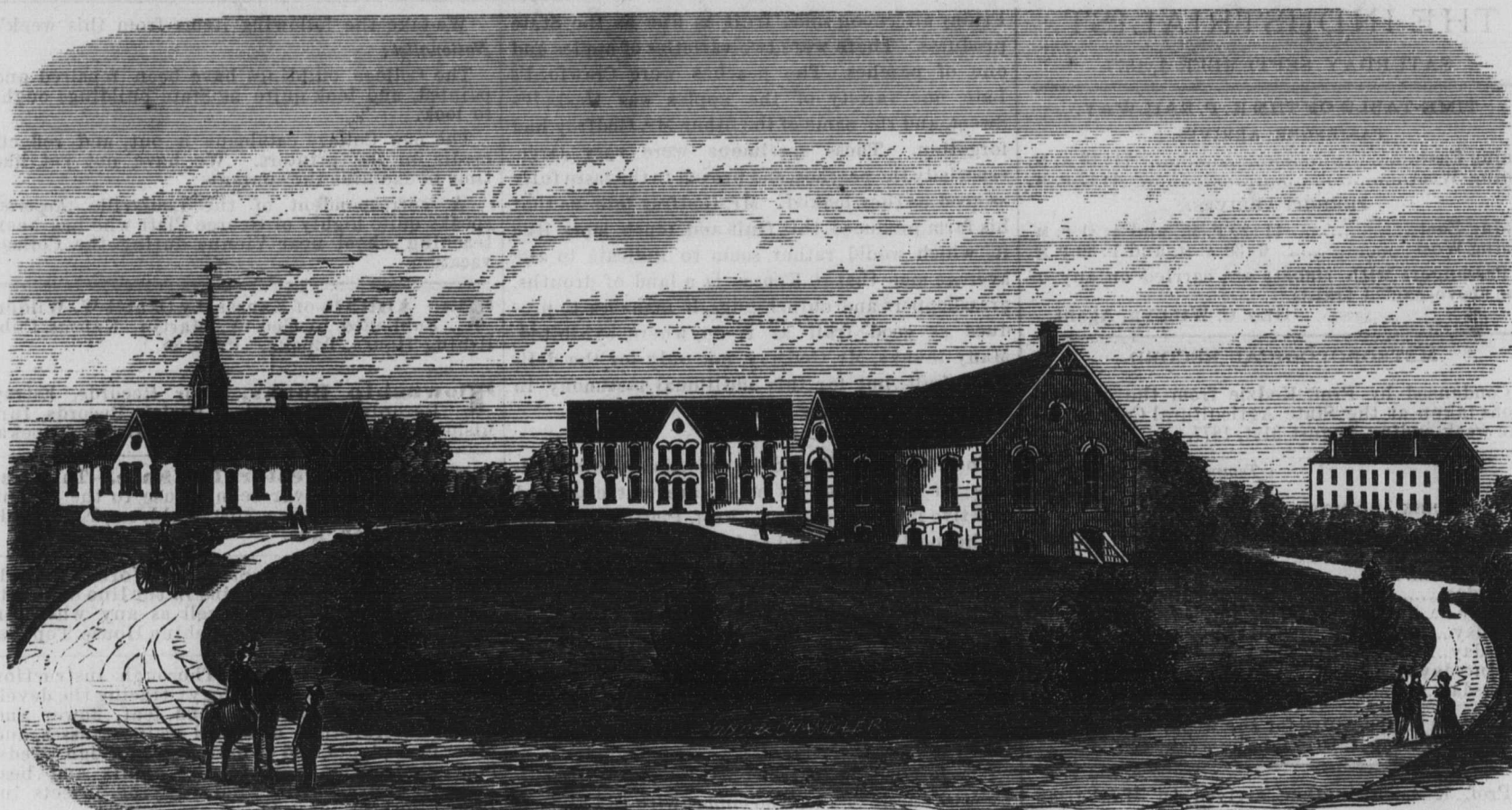
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Mechanical Building.

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KANSAS STATE AGRICULTURAL COLLEGE.

KANSAS STATE AGRICULTURAL COLLEGE.

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Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied

operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

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To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

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The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

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Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

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No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

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English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, SEPTEMBER 8, 1877.

No. 21.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

List of Kansas Newspapers.

An accurate list of the papers published in Kansas is a convenient thing to have in the editorial family. The following is taken from the proceedings of the Editorial Association, July 1, 1877. Since then, changes have occurred. We will be much obliged to the fraternity for corrections to Sept. 9th, 1877; and when these are made will again publish the roll:

ALLEN COUNTY.

The Humboldt Union—W. T. McElroy, editor, Humboldt.
The Iola Register—G. D. Ingersoll and H. A. Perkins, Iola.

ANDERSON COUNTY.

Garnett Plaindealer—S. H. Dodge, editor, Garnett.
Garnett Weekly Journal. G. W. Cooper, Garnett.

ATCHISON COUNTY.

Atchison Champion (daily and weekly)—John A. Martin, Atchison.
Atchison Patriot (daily and weekly)—H. K. Park & Co., Atchison.
Atchison Courier (German)—E. Fleischer, Atchison.
American Journal of Education (monthly)—J. B. Merwin and I. C. Scott, Atchison and St. Louis.

BARTON COUNTY.

Great Bend Register—A. J. Hoisington, editor; Hoisington & Corp, proprietors; Great Bend.
Inland Tribune—C. P. Townsley, Great Bend.
Arkansas Valley Democrat—I. P. Flint, publisher, Great Bend.

BOURBON COUNTY.

Fort Scott Monitor (daily and weekly)—Monitor Publishing Company; T. H. Annable, editor; Fort Scott.
Fort Scott Pioneer—U. F. Sargent, Fort Scott.
New Century (monthly)—John Paulson, Fort Scott.

BROWN COUNTY.

Kansas Herald—D. L. Burger and S. L. Roberts, Hiawatha.
Hiawatha Dispatch—A. N. Ruley, Hiawatha.

BUTLER COUNTY.

Southern Kansas Gazette—C. H. Kurtz and J. B. Kurtz, Augusta.
Walnut Valley Times—T. B. Murdock, Eldorado.
The Eldorado Press—J. M. Satterthwaite, Eldorado.

CHAUTAUQUA COUNTY.

The Chautauqua Journal—H. B. Kelley, Sedan.
Chautauqua News—S. P. More & Son, Peru.
Cedarvale Blade—J. M. Jarvis, editor, Cedarvale.

CHASE COUNTY.

Chase County Leader—W. A. Morgan and R. M. Watson, Cottonwood Falls.
Chase County Courant—W. E. Timmons and J. C. Martin, Cottonwood Falls.

CHEROKEE COUNTY.

Republican-Courier—S. O. McDowell and A. T. Lea, Columbus.
Miner—McDowell & Lea, Galena.
Mining Echo—T. J. Hadley and H. H. Webb, Empire City.
The Western Luminary (monthly)—John B. Fast, Columbus.
The Rural Educationalist (monthly). W. M. Simpson, Columbus.

CLAY COUNTY.

The Clay County Dispatch—J. P. Campbell, Clay Center.

CLOUD COUNTY.

The Concordia Empire—Harris E. Smith, Concordia.
The Concordia Expositor—J. S. Paradis, Concordia.

COFFEY COUNTY.

The Burlington Patriot—A. D. Brown, Burlington.
The Independent—Frank B. Smythe, Burlington.

COWLEY COUNTY.

Arkansas City Traveler—C. M. Scott, Arkansas City.
The Winfield Courier—E. C. Manning, Winfield.
Cowley County Telegram—W. M. Allison, Winfield.

CRAWFORD COUNTY.

Crawford County News—George W. Tipton, Girard.
The Girard Press—E. A. Wasser and A. P. Riddle, Girard.
The Cherokee Index—Hoffman & Metcalf, Cherokee.

DAVIS COUNTY.

The Junction City Union—George W. Martin, Junction City.
The Junction City Tribune—John Davis & Sons, Junction City.

DICKINSON COUNTY.

The Dickinson County Chronicle—J. W. Hart, Abilene.
Kansas Gazette—V. P. Wilson, Enterprise.

DONIPHAN COUNTY.

The Weekly Kansas Chief—Sol. Miller, Troy.
Troy Weekly Bulletin—C. G. Bridges, Troy.

DOUGLAS COUNTY.

The Tribune (daily and weekly)—J. E. Covel, Lawrence.
Republican-Journal (daily and weekly)—T. Dwight Thacher, Lawrence.
The Lawrence Standard (daily and weekly)—E. G. Ross, Lawrence.
Spirit of Kansas—James T. Stevens, Lawrence.
The Kansas Collegiate (monthly) Chas. S. Gleed, Lawrence.

EDWARDS COUNTY.

Edwards County Leader—W. T. Bruer, Kinsley.

ELK COUNTY.

Elk County Ledger—Adrian Reynolds, Elk Falls.
The Courant—A. B. Steinbarger, Howard City.
Kansas Rural (monthly)—J. A. Somerby, editor, Howard City.

ELLIS COUNTY.

Ellis County Star—J. H. Downing, Hays City.
Hays Sentinel—William P. Montgomery and F. C. Montgomery, Hays City.

ELLSWORTH COUNTY.

Ellsworth Reporter—G. A. Atwood, Ellsworth.

FORD COUNTY.

Dodge City Times—W. C. and Lloyd Shinn, Dodge City.

FRANKLIN COUNTY.

Ottawa Republican—Amasa T. Sharpe, Ottawa.
Ottawa Journal and Triumph—Journal Publishing Company, Ottawa.

GREENWOOD COUNTY.

The Censorial—W. E. Doud, Eureka.
The Eureka Herald—Dunham and Rizer; H. C. Rizer, editor; Eureka.

HARVEY COUNTY.

Harvey County News—J. S. Collister, Newton.
Newton Kansan—H. C. Ashbaugh, Newton.

JACKSON COUNTY.

The Holton Recorder—M. M. Beck and J. W. Shiner, Holton.
Holton Argus—J. Lillie, Holton.

JEFFERSON COUNTY.

The Kansas New Era—Levi B. Wilson, Valley Falls.
The Oskaloosa Independent—J. W. Roberts and F. H. Roberts, Oskaloosa.
The Argus—Cotton & Gardiner, Winchester.

Sickle and Sheaf—Jules L. Williams, Oskaloosa.

JEWELL COUNTY.

Jewell County Diamond—M. Winsor, Jewell City.
Jewell County Monitor—J. Thompson, Jewell Center.

JOHNSON COUNTY.

Mirror and News-Letter—J. A. and H. F. Canutt, Olathe.
Western Progress—T. E. Milhoan and T. H. McGill, Olathe.
The Kansas Star—Institution for Deaf and Dumb, Olathe.

LABETTE COUNTY.

Southern Kansas Advance—James M. Caveness, Chetopa.
The Oswego Independent—F. B. McGill, Oswego.
Eclipse—J. B. Lamb, Parsons.
Chetopa Herald—J. H. Hibbetts, editor; Frank W. Fry, local editor; Chetopa.
The Sun—M. W. Reynolds, Parsons.
The Settlers' Guide (quarterly)—J. B. Cook & Co., Chetopa.

LEAVENWORTH COUNTY.

The Leavenworth Times (daily and weekly)—D. R. Anthony, Leavenworth.
The Public Press (daily and weekly)—F. J. Wendell, manager; H. B. Horn, editor; Leavenworth.
Kansas Freie Presse (daily and weekly)—Ed F. Haberland & Bros., Leavenworth.
Leavenworth Appeal—William W. Embury, Leavenworth.
The Home Record (monthly)—Mrs. C. H. Cushing, Leavenworth.
Western World (monthly)—Missouri Valley Life Insurance Company, Leavenworth.

LINCOLN COUNTY.

Saline Valley Register—G. M. Wellman, Lincoln Center.

LINN COUNTY.

The Pleasanton Observer—Plumb & Bacon; Henry Plumb, editor; Pleasanton.
Linn County Clarion—Brice & Van Buskirk; S. M. Brice, editor; Mound City.
La Cygne Weekly Journal—J. P. Kenea and Ed. C. Lane, La Cygne.

LYON COUNTY.

The Emporia News—Stotler & Graham, Emporia.
The Emporia Ledger—H. W. McCune, Emporia.

MARION COUNTY.

The Peabody Gazette—Church & Peabody, Peabody.
The Marion County Record—E. W. Hoch and W. F. Hoch, Marion Center.
The Florence Herald—H. D. Morgan, Florence.

MARSHALL COUNTY.

The Marshall County News—Thomas Hughes, Marysville.
Blue Valley Telegraph—J. I. Reece & Company, Waterville.
Blue Rapids Times—C. E. Tibbetts, Blue Rapids.
Blue Valley Gazette—John Thomson, Irving.
The Frankfort Record—Smith & Sons, Frankfort.

MCPHERSON COUNTY.

The McPherson Independent—George W. McClintick, McPherson.

MIAMI COUNTY.

The Miami Republican—J. H. Rice, Paola.
The Western Spirit—Leslie J. Perry, Paola.

MITCHELL COUNTY.

The Gazette—George W. Anderson, Beloit.
The Echo—Austin L. Topliff, Cawker City.
The Beloit Record (monthly)—G. W. Bertram, and Mark J. Kelley, Beloit.

MONTGOMERY COUNTY.

The Independence Kansan—Will H. Warner, Independence.
South Kansas Tribune—W. T. & C. Yoe, Independence.
Coffeyville Journal—W. A. Peffer, Coffeyville.
Independence Courier—Frank C. Scott, Independence.
Cherryvale Leader—W. M. Risley, Cherryvale.

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THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 8, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

If there isn't any connection in the article which appears on the first page, there is a deal of variety in it. Like the "x" in an equation, each name represents a quantity having decided force; and when one realizes the wealth of the counties, the brain and spirit of the editors, and the vigor, pluck and industry of the readers, he can make a very interesting story out of the Kansas newspaper list.

WIRT WALTON says he can't put on a clean collar without getting his name in the papers.—*Wamego Tribune*.

Isn't there some mistake, then? If Wirt's name only goes into the papers when he puts on a clean collar, how does it get there so often? Where is the reliable witness who, after mature deliberation and with a full realization of the solemnity of an oath, will have the boldness to swear that he ever saw Wirt put on a clean collar? Can any body find that man? The clerk will call the roll.

To the Press.

Please examine the list of Kansas newspapers printed herewith, and notify us, by postal card, of any corrections that should be made in the title of the paper, place and frequency of publication (daily or monthly), names of editors and publishers, etc. These corrections will be published in the *INDUSTRIALIST*, and the list as corrected republished September 22, and an extra copy mailed to each paper. The following corrections are reported: Labette county—suspended, *Chetopa Herald*, Chetopa. Pottawatomie county—add *Wamego Tribune*, Campbell Bros., Wamego.

Practical vs. Professional Education.

The difference between a practical and professional education is simply this: The course of study followed by those institutions which furnish a professional education is intended to give the pupil a general knowledge of the languages and sciences, preparatory to his further and special education as a lawyer, doctor or minister. Accordingly, the several branches are taught as general sciences, and with little or no respect to any use which the pupil may afterwards make of the knowledge except as a "scholar" or "scientist."

A "practical" education is one "ready for use," or usable in daily life; in other words, one that will enable the pupil to earn a living in the "industrial" as distinguished from the "professional" pursuits, that is as a farmer, mechanic, clerk, merchant, engineer, assayer, etc. Hence, the course of study in an institution giving a practical education presents that knowledge

which will have a cash value to the pupil as a farmer, mechanic or other industrialist; and this knowledge is taught not in a general way, without respect to the use to be made of it, but with direct reference to its use in the vocations followed by ninety-seven out of every hundred men in Kansas—for less than three in a hundred are professional men.

The fact is that the professional education, having always been shaped by professional educators, is primarily efficient in the training of professors, and secondarily, in imparting what is vaguely called "scholarship" or "culture." A practical education, or one ready for use by the industrialist, must of course include whatever there is in any science which will make his work easier and more successful, and such a drill must be given in this knowledge as will make the pupil ready and expert in its use.

The Agricultural College gives a practical as distinguished from a professional education. It makes the pupil intelligent and expert in the use of the English language; in the use of figures as employed by the farmer, book-keeper and engineer; and in the use of lines as employed by the carpenter, painter, and architect. Words, figures and lines are tools which all men use. It then gives thorough instruction and laboratorial or field drill in the following sciences as essentially useful to an intelligent and successful farmer: Physiology, Elementary Practical Agriculture, Natural Philosophy, Botany, Entomology, Practical Horticulture, Chemistry, Advanced Practical Agriculture, Geology, Mineralogy, Zoology, Meteorology, Political Economy, Practical Law and Logic. It has an equally practical and effective course for the education of woman as a woman, instead of a man, and as a worker instead of a butterfly. Then, it has a well-stocked farm and nursery, and well-equipped shops, for giving boys practice in farm and nursery work, and in wood and iron work, and for giving girls drill in dress-making, printing, telegraphy, carving, engraving and music.

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn a living; it is the only one which teaches all the sciences as "applied" rather than as "general" sciences; and it is the only one where the pupil can obtain this knowledge of the sciences and, at the same time, manual practice, be that practice on the farm, in the laboratories, shops or offices.

From the *Kansas Farmer*.

Hog Cholera—A Suggestion.

EDITOR FARMER:—We have the best reasons for knowing that the seeds of the terrible scourge named at the head of this article are already pretty well scattered over the State requiring only the favoring in-

fluences of the western fattening process to insure a harvest of death, such as will astonish our farmers and stockmen. The evidence of this need not be given here. The readers of the *Farmer* who have access to Mr. Alfred Gray's invaluable reports, have doubtless noticed in the chapter headed, "Diseases Among Farm Animals," the great preponderance of diseased swine reported over all other domestic animals combined. A large number of these cases are pronounced undoubted hog cholera, but when we remember the multifarious forms assumed by this malignant epidemic, it seems not unreasonable to suppose that many of the cases reported by Mr. Gray's correspondents under other names are neither more nor less than cholera.

Now, to our people this is a vital matter, and one second in importance only to the grasshopper from which we have just now escaped. We have now in sight a corn crop of unsurpassed excellence, and considering the price of corn, the large number of hogs in the State, and the prospective price of hog products, it is not too much to say, that so far as the farmers are concerned the profits of this enormous crop will come chiefly from "the gentleman that pays the rint." In short, it is within the power of this fell disease to do nearly or quite all that the grasshoppers have failed to do, to rob us of the fruits of a successful summer's campaign, and a long year's labor in growing the stock hogs. The experience of the past half dozen years has conclusively shown this: that the disease variously called "hog cholera," "intestinal fever" and "sty fever," may be successfully warded off and prevented; when it once has gained a foothold its destructive effects may be greatly mitigated. The suggestion I wish to offer is this: let the owners of swine take such precautions now as shall prevent the further spread of the disease. It should be borne in mind that this disease is spread chiefly by contagion, and that those animals having the best general health and greatest vigor will best withstand the contagion.

The means by which the further spread of this disease may be checked, may be stated under three principal heads.

1. As to the introduction of hogs for feeding purposes from other States. Probably this has done more towards the dissemination of hog cholera than all other causes combined. Indeed, I have yet to see the first case in which hog cholera has originated in Kansas. Let it be understood that actual contact is not essential to the spread of this disease, for notoriously herds do take the contagion when separated by long distances from diseased animals. It is the plain duty of stockmen, farmers and others, who annually bring into the State hogs in large numbers for feeding purposes, to know that animals thus introduced are sound and healthy before shipment. Wherever any doubt or suspicion of this exists, such animals should be severely let alone, or placed in quarantine until all doubt has been removed. I do not put this matter on grounds of sentiment, or even of public policy alone. Every one attempting to handle hogs having the slightest taint of this disease is certain to be a loser to a greater or less extent. Surely, if the Texas cattle trade must be hedged in by so many restrictions, a disease of swine which cost the nation last year not less than \$20,000,000 deserves more attention from our people and their legislators than it has heretofore received.

2. Those animals receiving the best treat-

ment, both now and during fattening time, will most successfully resist the disease.

Let the hogs, especially during fattening time, have clean, comfortable quarters, including protection from storms, and, above all, avoid an exclusive corn diet. Feed as much as possible of nitrogenous foods, such as milk, shorts, bran, ground oats, peas, and the like. It will be found greatly to the advantage of the hogs if they are salted regularly and often, and they ought at all times to have free access to a pile of ashes and charcoal.

3. When the disease has once appeared in the herd, attention to the above particulars becomes all the more imperative. Separate from the herd every animal showing the slightest symptom of the disease, and give all the best and most digestible foods within your reach, carefully avoiding raw corn in any form. I succeeded last fall in saving fully seventy-five per cent of a large number of diseased pigs by feeding them liberally of milk.

There are many other details which will occur to practical men. I only desire in this article to urge upon our farmers and stockmen the importance of thinking and acting at once in a matter of such vast importance to them.—Prof. Shelton.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 8, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

New students are coming in every day.

Prof. Shelton sold \$65 worth of pigs this week.

The Board of Regents meets next Tuesday at eight P. M.

The classes are all at work, and the students are busy as bees.

There have been visitors at the College nearly every day this week.

The growth of vegetation on the farm and in the nursery this season has been wonderful.

Miss Blanche Grove, a cousin of President Anderson's, is spending a few days on the Hill.

Prof. Gale has been afflicted with the ague for more than a week, but is now able to hear his classes.

Misses Josie Harper and Ella Winné made the College a visit this week, and of course called on the Printing Department.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

Last week we mailed a card of inquiry to publishers, and have replied to all from whom an answer has been received. Any one not receiving our reply will please notify us.

We have received the premium list of the Oak Dale Park Fair Association, Salina, Sept. 26-29. It is handsomely gotten up by the *Journal* office, and the fair itself will of course be handsomely gotten up.

We have received Felter's Book-keeping, just published by George W. Martin. Typographically, it is the tastiest sample of text-book work in America. Of its contents we shall have more to say after examination.

Mr. G. C. Campbell is repainting the wood-work on the outside of Prof. Gale's fine residence. This

adds greatly to the appearance of the building, and many of the Manhattan property owners would do well to follow Prof. Gale's example.

The new barn is nearly finished, and for price, convenience and capacity cannot be beaten. It is a model in every way, and we hereby enter it in every fair of the season for the first premium. If any gentleman thinks he has a better barn, let him bring it over and compare.

The fifth annual fair of the Riley County Agricultural Society will be held October 2-5, and will doubtless be a success. If every farmer would bring in a sample of his crops, whether for premium or not, Riley county would be astonished at itself this year. The premium list is neatly gotten up by the *Nationalist*.

The choice Berkshire and Essex pigs belonging to the Farm Department are meeting a very lively demand from the farmers of the State. The following are some recent sales: To W. Schofield, Alma, Kansas, one Essex pig; to W. P. Popenoe and John Richmond, both of Topeka, one Berkshire pig each; to Ed Secrest, Randolph, one Berkshire pig; to Stephen Clapp, Beloit, one Berkshire pig; to W. P. Higinbotham, Manhattan, one Berkshire gilt and one pair Essex pigs.

List of offices and calls on the telegraph line at present are as follows:

Platt.....	Rk.
Anderson.....	An.
President's House.....	A.
President's Office.....	Ca.
Mechanical Building.....	F.
Eckman.....	Ck.
Wilson.....	Wi.
Superintendent's Office.....	S.
Ulrich.....	U.
Hadley.....	Hy.
Smith.....	X.
Blain.....	B.
Post-office.....	Po.
K. P. Depot.....	Mn.
G. C. Wilder.....	Bn.
Hoyt.....	Q.
Pillsbury.....	Pr.

The Alpha Beta Society was called to order Friday afternoon, August 31st, by A. A. Stewart. After devotion, Messrs. Stiles and Wilson were appointed critics, and Mr. Blain appointed Marshal. Misses Wilson and Cook and Gus Platt were elected members, and all except Miss Wilson were initiated. The officers elect were installed after the examining committee had reported them qualified for office. Then followed a superb inaugural by Wm. Sikes, in which the "Past, Present and Future" of the Society was "held forth" in a most magnificent style. A spirited debate then took place on the question: "Resolved, That lady teachers are preferable to gentlemen in a district school." Affirmative, Amos Wilson and George Platt; negative, Wm. Sikes and A. H. Stiles. Decision in favor of the affirmative. Mr. Stiles read a very humorous selection and Miss Parker presented an interesting essay upon the subject of "Newspapers."

The question for debate at the next meeting reads: "Which is preferable for the development of the mind, city or country life?" Affirmative, Miss Josie Harper and A. A. Stewart; negative, George Platt and Amos Wilson. We hope every student will visit this Society, even if he does not intend to join it. REPORTER.

The second regular meeting of the Webster Society was held in the Telegraph Hall Saturday evening, Sept. 1st, at eight o'clock. The meeting was called to order by the Vice-President, A. N. Godfrey. After roll-call and prayer, the officers elected at the previous meeting were installed.

The newly-elected officers having taken their places, the President, Mr. Godfrey, was called upon for an "inaugural," to which he replied in a few well-chosen remarks. The debate followed with considerable interest, the decision of the judges being given in favor of the negative.

Extemporaneous speaking followed with much

interest, the "Southern Policy" and "Indian Question" being discussed. Mr. Albert Todd, who was an active member of the Society in 1869, being present, favored the members with a few very encouraging and instructive remarks on the growth and prosperity of the Webster Society.

Under the head of composition, Mr. Hickey read an essay on the origin of the English language.

Under the head of new business, the time of meeting was changed from eight o'clock to half-past seven, and the time of adjournment fixed at ten o'clock. A motion carried to vary the exercises on next Saturday evening by having a spelling match in the place of debate, to which all are cordially invited. REPORTER.

Profs. Kedzie and W. C. Stewart have each purchased an electric writer. These little machines write very rapidly, on prepared paper, and the writing can be duplicated indefinitely by means of a small press.—*Enterprise*.

Mr. Purcell has on exhibition what we call a large ear of corn. It is eleven inches in length, nine inches in circumference at the butt, and eight inches at the smaller end, and contains 1,276 grains. There is another ear that is fifteen inches long.—*Enterprise*.

The Kansas Agricultural College's biennial catalogue comes to hand in neat style.—*Topeka Democrat*.

We have received the biennial catalogue of the State Agricultural College, which shows a healthy state of that institution.—*Osage City Free Press*.

The biennial catalogue of the Kansas State Agricultural College, at Manhattan, is on our table. The number of students enrolled is large. Agricultural colleges have not been very successful. Whether ours can be made "a complete success" time will determine. President Anderson is giving what is termed "a new departure" a most vigorous trial.—*Enterprise Gazette*.

Our readers will notice the advertisement of the State Agricultural College in this morning's issue of the *Journal*. There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months in that school. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal*.

We have received the biennial catalogue of the Kansas State Agricultural College, Manhattan, for the calendar years 1875-77. By this report we see that as many as four persons from Chase county have attended the College between January 7, 1875, and May 23, 1877. The school is reported to be in a prosperous condition. The catalogue is a well-executed piece of work, and speaks well for the Printing Department of the College.—*Chase County Courier*.

Attention is directed to the new advertisement of the State Agricultural College in this issue, the fall term of which opened on the 23d ult, and will close Dec. 20th. This is the only school in the State which teaches practical education—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers. The tuition is absolutely free. For full particulars address the President, John A. Anderson, Manhattan, Kansas.—*North Topeka Times*.

In another column will be found an advertisement of the Manhattan Agricultural College. This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. One of the greatest mistakes people who buy farms make is to think they know all about farming when they have never had any education in that vocation. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade*.

The biennial catalogue of the State Agricultural College, at Manhattan, has been received for this year. A very flattering account of the progress of the College is given, and a list of students enrolled from January 7th, 1875, to May 23d, 1877. During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgwick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not as fully appreciated by our citizens as it should be.—*Wichita Beacon*.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-1f

[Concluded from first page.]

MORRIS COUNTY.

Council Grove Democrat. F. W. Dunn, Council Grove.
Morris County Republican. Frank A. Moriarty, Council Grove.

NEMAH COUNTY.

Weekly Seneca Courier. West. E. Wilkinson, Seneca.
The Sabetha Advance. E. A. Davis, Sabetha.
Nemaha County Republican. J. F. Clough, editor, Sabetha; J. C. Hebbard, associate editor, Seneca.

NEOSHO COUNTY.

Neosho County Journal. J. H. Scott & Co; C. H. Howard, editor; Osage Mission.
Neosho County Record. G. W. McMillen, Erie.
Chanute Times. A. L. Rivers, Chanute.
Headlight. C. T. Ewing, Thayer.

OSAGE COUNTY.

The Osage County Chronicle. W. F. Chalfant, Burlingame.
The Osage City Free Press. W. H. Morgan, Osage City.
The Lyndon Times. R. A. Miller and W. F. Miller, Lyndon.

OSBORNE COUNTY.

Osborne County Farmer. F. H. Barnhart, Osborne City.

OTTAWA COUNTY.

Minneapolis Independent. William Goddard, Minneapolis.
Sentinel. Chas. Hoyt and Thomas Midgley, Minneapolis.
Solomon Valley Mirror (monthly). C. C. Olney & Bro., Minneapolis.

PAWNEE COUNTY.

Pawnee County Herald. S. W. Davis, Larned.
The Larned Press. William C. Tompkins, Larned.

PHILLIPS COUNTY.

The Chief. A. G. McBride, Kirwin.
The Kirwin Progress. E. F. Robinson, Kirwin.

POTTAWATOMIE COUNTY.

Kansas Reporter. Hick & Reed, Louisville.
St. Marys Times. O. LeRoy Sedgwick, St. Marys.

RICE COUNTY.

Rice County Gazette. E. Branson Cowgill, Sterling.
Bulletin. Bulletin Publishing Company, Lyons.

RENO COUNTY.

The Interior. N. C. Boles, Hutchinson.
The Hutchinson News. Fletcher Meredith, Hutchinson.
Hutchinson Herald. W. J. Turpen, Hutchinson.

REPUBLIC COUNTY.

Scandia Republic. A. B. Wilder, Scandia City.
Belleville Telescope. J. C. Humphrey, Belleville.

RILEY COUNTY.

The Nationalist. Albert Griffin, Manhattan.
Manhattan Enterprise. A. L. Runyan, Manhattan.
The Industrialist. John A. Anderson, Manhattan.
Hygiene Miscellany and Medical News. Dr. Patee, Manhattan.

ROOKS COUNTY.

The Stockton News. J. W. Newell, Stockton.

RUSH COUNTY.

Rush County Progress. E. E. Gunn, Rush Center.

RUSSELL COUNTY.

Russell County Record. Dollison Brothers, Russell.

SALINE COUNTY.

Saline County Journal. M. D. & L. E. Sampson, Salina.
The Salina Herald. B. J. F. Hanna, Salina.
Farmers' Advocate. Beebe & Manning, Salina.

SEDGWICK COUNTY.

The Wichita City Eagle. M. M. & R. P. Murdock, Wichita.
The Wichita Weekly Beacon. Smith & White, Wichita.
The Independent, Neff & Robinson, Wichita.

SHAWNEE COUNTY.

The Commonwealth (daily and weekly)—F. P. Baker & Sons, Topeka.
The Topeka Blade (daily and weekly)—J. B. Fithian, Topeka.
Kansas Democrat—T. W. & T. B. Peacock, Topeka.
The North Topeka Times—Frank A. Root, North Topeka.
The Commercial Advertiser—E. F. Campbell, Topeka.
Kansas Farmer—J. K. Hudson, Topeka.
Kansas Churchman—Rev. H. H. Loring, Topeka.
American Young Folks—J. K. Hudson, Topeka.

SMITH COUNTY.

The Smith County Pioneer. Will D. Jenkins, Smith Center.

SUMNER COUNTY.

Sumner County Press. Folks & Bishop, Wellington.
Sumner County Democrat. L. C. Crawford, Wellington.
Oxford Independent. Abbott & Kelley, Oxford.

WABAUNSEE COUNTY.

The Wabaunsee County News. A. Sellers, Alma.
The Blade. R. Cunningham & Co., Alma.

WASHINGTON COUNTY.

Washington Republican. J. B. Besack, Washington.
The Western Independent. P. D. Hartman, Hanover.

WILSON COUNTY.

Wilson County Citizen. John S. Gilmore, Fredonia.
Neodesha Free press. F. H. McCarter, Neodesha.
Tribune. B. F. Bowen, Fredonia.

WOODSON COUNTY.

Woodson County Post. J. Mickle & Son, Neosho Falls.
Yates Center News. Steinberger & Baker, Yates Center.

WYANDOTTE COUNTY.

The Wyandotte Herald. V. J. Lane & Co., Wyandotte.
The Wyandotte Gazette. W. B. Taylor, Wyandotte.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

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Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

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The Farm Department State Agricultural College

Offers for sale

YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWAYS. Also, a very fine lot of
BERKSHIRE PIGS, eligible to record and the get of the celebrated boars Lord Liverpool and British Sovereign II. We have also for sale a few choice
ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,
EDWARD M. SHELTON, Sup't Farm,
Manhattan, Kansas.

(11-1f)

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

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To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

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The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, SEPTEMBER 15, 1877.

No. 22.

THE INDUSTRIALIST.

Published every Saturday by the
PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

EVERY-DAY ENGLISH.

"English Grammar"—So Called.

BY RICHARD GRANT WHITE.

[Concluded from week before last.]

The uselessness of the study of what is called English grammar is shown by the fact that none, or nearly none, of the great writers and speakers of English, before the present century at least, were at all instructed in that by pedagogues much-vaunted "branch" of education. Our great poets, philosophers, statesmen, orators—men whose words are the glory and princeless heritage of the English race and whose use of language we feebly emulate—knew nothing of English grammar, except that they spoke in grammar, for the grammar came. Is there any use in teaching a method of speaking and writing the English language correctly that was utterly unknown to Chaucer, Spencer, Sidney, Marlowe, Shakespeare, Ben Jonson, Bacon, Fletcher, Milton, Pope, Dryden, Locke, Addison, Steele, Fielding, Goldsmith, Sterne, Burke, Johnson, and to the English translators of the Bible? And what English short of that of Shakespeare and the English Bible is to be compared with John Bunyan's—a man ignorant of not only English grammar but of any grammar at all?

I have stopped in the citation of my examples with the writers of the last century merely because, in regard to those of the present, I am less sure about their school-boy experience in learning their mother tongue, and because it was about the beginning of this century that the grammar fever broke out. But that mental malady never raged much in England, at least in the class of those who receive the higher education; and it is probable at least that Walter Scott, Byron, Wordsworth, Southey, Macaulay, Carlyle, and Thackeray received no special instruction in English grammar. This assertion may surprise some who know that "grammar schools" have long been known in England. They have existed there for centuries—from the time of Edward VI. at least. There was a grammar school at Stratford-on-Avon, to which Shakespeare probably went; and he makes *Jack Cade* bring it as a grievous accusation against the *Lord Say* that he has "most traitorously corrupted the youth of the realm in erecting a grammar-school." But these grammar-schools had nothing to do with English. The grammar they taught was the Latin grammar. Then "grammar" meant, without more words, Latin grammar. The people that produced Shakespeare and Bacon and the translators of the Bible would as soon have thought of setting up schools to teach young ducks to swim as a school to

teach English boys the art of speaking and writing the English language correctly. In "The Merry Wives of Windsor," Shakespeare makes the clergyman, *Sir Hugh Evans*, ask little *William Page* "some questions in his accidence," at the request of his mother, who says that his father complains that he "profits nothing in the world at his books;" and his accidence is Latin, his book simply his Latin grammar. The men whom *Jack Cade* tells *Lord Say* it will be proved to his face he has about him, and who "usually talk of a noun and a verb, and such abominable words as no Christian ear can endure to hear," talked only of Latin nouns and verbs.

The first English grammar that I am acquainted with was written by Ben Jonson, who wrote it, I believe, after Shakespeare's time, and left it unfinished. After that there were various English grammars written, but they were not for the use of schools. Knowledge of the construction of language was obtained in England until a very recent period only through the medium of the Latin and Greek grammars. "America" has been the great field of labor in English grammar, and the first great English grammar, the one by which school-boydom has been chiefly oppressed, was written by an "American," Lindley Murray, the Philadelphia Quaker. The influence of this book and its congeners in our country upon our language has not been happy. Our English has suffered from it. We have produced some writers who use the English language with freedom and inborn mastery; but the mass of our free-and-independent-public-school-educated American citizens would, I believe, have written better and and spoken better, more naturally, easily, forcibly, idiomatically, if English grammars had been unknown.

Many people are puzzled to understand the terms "four-penny," "six-penny," "ten-penny;" as applied to nails. "Four-penny" means four pounds to the thousand nails, "six-penny" six pounds to the thousand, and so on. It is an old English term and meant at first "ten pound" nails (the thousand being understood); but the old Englishmen clipped it to "tenpun;" and from that ten-punny; and so it degenerated, until "penny" was substituted for "pound." So, when you ask for four-penny nails, nowadays, you want those a thousand of which will weigh four pounds; but in these degenerate times, we question whether you will get as many as a thousand in that weight. When a thousand nails weigh less than a pound they are called tacks, brads, etc., and are reckoned by ounces.

TRYING to do business without advertising is like winking at a pretty girl in the dark; you may know what you are doing, but nobody else does.

If Kansas farmers want to succeed, they must adhere to at least three rules: 1. Get out and stay out of debt; 2. Buy less machinery; 3. Raise more stock.

In his "Midsummer" poem Ralph Waldo Emerson says:

The butterfly and the bumble-bee
Come to the pleasant woods with me.

The butterfly is all well enough, but a man who goes out to a private picnic with an irascible bumble-bee for his companion is morally certain to come home with his feelings lacerated, his confidence shaken, and the pleasure of the day sadly marred by a temporary wen as big as an egg on the side of his nose.

THE world is full of business, labor, investigation, education and religion. There is a disposition on the part of a large number of persons to shun honest toil and sponge a living by some trick or another. Some go out as negro minstrels; others as itinerant lecturers; others as the advocates of new theories in science, art, etc., and still others as teachers of new religious notions, or old and exploded ones revived. The main object of all these classes of people is to get a living without honest industry. And the chronic office-seeker might be included in the list.—*Oskaloosa Independent*.

Women Telegraphers.

The employment of women in the telegraph department has been a complete success in England. Over 1,100 are employed in London, and there has been but one dismissal in four years. Their hours of work are from 8 A. M. to 8 P. M., each being on duty eight consecutive hours out of these twelve. In the establishment there is a kitchen and a dining room, and the girls have a thoroughly good dinner for 20 cents.

The pay begins at \$2 a week, which is raised to \$3 when a girl is competent. Girls may enter from 14 to 18. The average pay received is \$4.50 a week, and the highest is \$7.50 a week. A clerk who has worked for thirty years at \$7.50 a week would have \$3.75 a week pension.

Kansas Beats the World.

Of all the grain-growing States, both old and young, the most remarkable is Kansas. She springs to the front in her average yield per acre of the cereal crops, while her nutritious native pasturage affords an inexhaustible supply of feed for stock. Four hundred miles long by two hundred wide, there is scarcely one of her more than fifty-two millions of acres that is not adapted in one form or another for agricultural or pastoral purposes. All the streams of the State seek its center, and all their waters eventually find their way into the Kansas River.

The present population of Kansas is a little over a half a million. Five millions of acres of land are under cultivation. The grain crop of this year is expected to aggregate 120,000,000 bushels, of which about 80,000,000 will be corn, nearly 20,000,000 will be wheat, and the remainder oats, barley, rye and other small grains. The value of the agricultural products of the year 1872 was \$44,000,000. The value of the agricultural products of the present year is estimated at \$60,000,000.—*N. Y. Herald*.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 15, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Lawrence Journal and Topeka Commonwealth have expended portions of their superfluous wealth in the purchase of new type, and have gotten themselves up as neatly as their respective editors did once on a time several years ago, when they popped the question. Which, likewise, the same it is true of the Wilson County Citizen. And each of them and all their readers have a right to be glad.

INSTEAD of republishing next week the list of the newspapers of Kansas, we will issue it as a supplement for the Faber fraternity. Other persons will be supplied on application. The following corrections are reported:

Bourbon county—*New Century*, Rev. John Paulson and John B. Campbell, Fort Scott, weekly instead of monthly. Cowley county—*The Winfield Courier*, Courier Company, Winfield. Labette county—suspended, *Chetopa Herald*, Chetopa. Lyon county—*Emporia Real Estate Register*, J. P. Bancroft, Emporia. Marion county—*The School Galaxy* (weekly), W. J. Groat, Marion Centre. Mitchell county—*The Beloit Weekly Record*, Mark J. Kelley and G. Webb Bertram. Shawnee county—suspended, *the Commercial Advertiser*, E. F. Campbell, Topeka. Reno county—*Hutchinson News*, don't spell Fletcher Meridith's name Meredith.

Please send in any and all corrections at once.

About Going to Kansas.

From the Topeka Commonwealth.

Under the above heading the Philadelphia Record has a column editorial extract from which we publish just to let our readers know what fools there are in the world. The text for the editorial is the following letter:

To the Editor of the Record:

I was rector of one of the most important parishes in Kansas, as well as a preacher at its Agricultural College, and traveled hundreds of miles over the prairies. The few advantages offered by that overrated country as a home for the working-man are greatly exaggerated, while its many disadvantages are studiously withheld from the public. Workingmen who shall be induced by reckless statements to immigrate to Kansas will be grievously disappointed. J. P. FUGETT.
33 North Ninth street.

Some years ago Mr. Fugett was rector of the Episcopal Church of Manhattan, and, in common with all the other pastors of the town, used to preach occasionally in the Old College Sunday afternoons. He was neither employed nor paid by the College, and his position as a 'preacher at the Agricultural College' is about as official as is that of a fourth of July orator. Mr. Fugett, so far as we know him, was a very pleasant and well-meaning gentleman, but a fair specimen of that class of eagles who majestically flap their wings in a blue ethereal far above the habitat of ordinary mortals. As a consequence he seemed to suffer per-

sistently under a chronic belief that his dazzling abilities were not properly appreciated, and, sad to state, he 'soured on Kansas.' May be that is what's the matter with Mr. Fugett, and maybe Kansas can worry through this terrible calamity if it attends strictly to business, and gets up early every morning.

Vacation Notes. No. III.

In looking over the season now drawing to a close, it occurs to us that rich as this season has been in all material blessings, it has been even richer and more valuable to Kansas agriculture in the many lessons it has taught us and in the assurance that it gives us for the future. This remarkable season has taught us that three great corn crops may be grown in succession in Kansas; that where the land is "covered as with a pall" by the flight of innumerable hosts of grasshoppers, we need not despair of yet making grand crops; and, finally, this year of abundance, equally with years of drought and grasshoppers, has pointed the truth that Kansas farmers are only safe with a varied cropping and abundant live stock, and with these they are always safe.

It is not our design to-day to extend this article into an essay on

VARIED PRODUCTION

or mixed husbandry, as general farming is variously called; but we cannot allow this opportunity to pass without again putting ourselves "on the record" against the special system of agriculture practiced in what are called the "wheat-growing sections" of the State. It may be true—a point we do not concede—that soil and climate combine in these localities to make wheat almost the only profitable crop. If this is true, as is so often stated, it is indeed a misfortune and one boding more overwhelming disaster than drought and grasshoppers. Without at all going into the merits of the case, we wish to ask our "wheat farmers" how long they expect to endure such disastrous seasons as those of '76 and '77, and even if they survive it, how long their farms will? If the growth of wheat alone is sound agricultural policy, then it is time that we began to unlearn the lessons taught by the experience of the last two thousand years.

In a previous article we have made our acknowledgments to

THE BIRDS,

those powerful auxiliaries of the farmer; but we are not prepared to go to the extreme length of those eastern writers who argue that the whole feathered tribe, including hawks and crows, are the boon friends of the farmer, it being his plain duty to abstain from all interference with them. While in Japan in 1872-3, we had an exceptionally good opportunity to observe the workings of this let-alone policy. Not one in a thousand of the Mikado's subjects knows the use of fire-arms, and nowhere

does this easy-going, vegetable-consuming people interfere with the feathered tribe. The result is that the small, insectivorous birds are almost unknown; at least this is true of a large tract of country about Yokohama and Tokio, while crows and hawks are omnipresent and well-nigh omnipotent. In the struggle for existence, the sharp beaks and talons have proved the "fittest" and they have "survived." These great, cawing, screaming brutes salute you from every gable; they well-nigh jostle you in the streets in their struggles for the stray bits of offal cast from the coolie's hut. But nowhere have I seen such an insect-cursed country as Japan. Kansas or even Utah or Nebraska are agricultural paradises in comparison. The European apple-tree cannot survive a single season in Japan on account of the borer; turnips and radishes can only be grown when the slugs are removed by the tedious process of hand picking three or four times during the growing season. We have seen considerable fields of buckwheat and oats destroyed in two days by a caterpillar resembling the army worm, which moved in such vast numbers as to cover large areas of ground. The truth seems to us to be this: the farmer must have intelligence sufficient to enable him to know his friends and enemies, and while he gives to the one all the encouragement and protection in his power, he should be to the other a determined and relentless foe.—Prof. Shelton.

The Agricultural College.

The Chicago Commercial Advertiser, in an article from their traveling correspondent on Manhattan and vicinity, contains the following favorable reference to the College:

The State Agricultural College here has doubtless done much toward developing a taste for architecture, landscape decoration, a refined and elegant social order, and good discipline generally. Such an institution attracts to its neighborhood men and women of culture and ambition. The two come together by attraction of sympathetic magnetism. The people of Manhattan did themselves and posterity a noble service in securing the Agricultural College. It is an educator of the public taste in all the higher elements and expressions of human living. I am inclined to believe that the plan of this College to unite the elements of a liberal, theoretical and practical education is the true one. The world is coming to believe in this policy. There is such a thing as too much scholasticism with too little practical training. The Agricultural College of Kansas is clearly on the right track. President Anderson is a man of ideas. He is eminently practical, too, and with "a policy" and the force to impress it, he has made a good start in a grand work. He is said to be well sustained, both in faculty and regency, and I hear the College highly spoken of throughout the State. A fine group of stone buildings, a handsome and well-appointed experimental farm, some excellent thorough-bred stock, a location to be envied, libraries, scientific apparatus and other elements of a great school of theory and practice. The success already attained with the men and policy in control are an earnest of noble future results to the State and the southwest.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 15, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:18 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

The Alpha Beta reporter failed to come to time this week.

The rain on last Saturday evening prevented the Webster Society from meeting as usual, consequently no report appears this week.

The Board of Regents has been in session this week, transacting the business of the usual fall meeting, and has had a pleasant time of it.

Among the visitors at the College this week, we noticed Senator Harvey, Mr. Hatch, of St. Louis, and Mr. Rossington, of Topeka, who is attending the District Court now in session in Manhattan.

The Young People's Christian Union of Manhattan held its first annual meeting in the Presbyterian Church last Sabbath evening. A full house of Manhattan's best people assembled to learn what this organization had done, what its purposes and aims were for the future, and to listen to the anniversary sermon, which was preached by Rev. E. Skinner, of Milford. This Christian Union is a consolidation of the Young Men's Christian Association of the College with the young people of Manhattan. According to the Secretary's report, the Union started out with a membership of fourteen, which has steadily increased during the year, so that there are now fifty-one enrolled, and several have not yet signed the constitution. One-half of this number are College students, and it may be truthfully said that the Union is greatly indebted to the students for much of the vigor and strength which it possesses.

Mr. Skinner took for his text the diversity of gifts spoken of in Corinthians, and treated it in an extraordinarily instructive and entertaining manner, proving by reference to biblical characters of the different ages that there existed among them a great diversity of gifts, and that this diversity was as noticeable among the Christians of to-day as it was in olden times. Mr. Skinner closed with an earnest appeal to the Union to go on with its work, gaining knowledge and grace and strength at every step. His sermon was an able effort, and will doubtless do great good, infusing the members with new zeal and enthusiasm in the work for the Master.

When we consider the number of young people who come here from year to year to attend the College, we must conclude that it is a very fortunate thing that we have an organization in our midst whose special aim it is to look after the spiritual welfare of these young persons who are away from home influences, among strangers, and subject to the many evils which are found in every community. The good influence which this Union exerts upon the lives of those who come in contact with it can hardly be estimated. Dealing as it does with the rising generation, the full results of its labors will not be known till years hence, when these youths, located in different parts of the country, take their positions in life and begin moulding the characters and shaping the actions of those around them. It is in no boasting spirit that we thus speak of the great work in which the Union is engaged. Its members fully realize their weaknesses and inconsistencies, but they are attempting by God's grace to strengthen themselves and those around them. They have embodied in their constitution and by-laws the plan upon which they think such an organization should work, and are laboring as best they can to promote the objects for which they are associated. We bid them Godspeed.

A. A. S.

We clip from the *Nationalist* this week as follows:

The College barn draws near completion, and is a credit to the State and to the builders and architect.

The Presbyterian Church was filled with a fine audience on Sunday evening. We give no report of the proceedings as that will be the work of the worthy Secretary, Mr. Greeley. There were in the audience a large number of College students, as good, bright and intelligent faces as we ever saw here. We are interested in the success of the young people, give them our best wishes, and urge them to work with a will.

The Agricultural College at Manhattan, Kansas, will please accept thanks for one of the biennial catalogues of their College.—*Florence Herald*.

The illustration in the *INDUSTRIALIST* of the Kansas State Agricultural College is a good one, and is the best advertisement for the College it has received.—*Kirwin Progress*.

We call attention to the advertisement of the Kansas State Agricultural College, an institution under the superintendence of able instructors, and offering great advantages.—*Osage City Press*.

We present our readers this week with an advertisement of the Agricultural College at Manhattan. It is one of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News*.

Read the advertisement of the Kansas State Agricultural College in this issue. It is the best educational institution in the west, eminently prosperous and deservedly popular with the masses.—*Wellington Press*.

The *INDUSTRIALIST*, the neat little paper published by the printing department of the Kansas Agricultural College at Manhattan, contains an excellent cut of the college buildings and grounds.—*Fredonia Gazette*.

Read the advertisement of the State Agricultural College in another column. Under the management of Jno. A. Anderson it has become a valuable educational adjunct to the school system of our State.—*Iola Register*.

Notice the card of the Manhattan Agricultural College in this issue. This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse*.

The *Elk County Ledger* is of the opinion that the Agricultural College is an honor to the State, and that under the management of Jno. A. Anderson it will be the means of unlimited good to the rising generation.—*Junction Union*.

We have received the biennial catalogue of the Kansas State Agricultural College, at Manhattan, for the calendar years 1875-7, printed in the printing department of that college. One hundred and seventy-five students attended this institution the last term.—*Galena Miner*.

The announcement of the fall term of the State Agricultural College at Manhattan is among our new advertisements to-day. We hardly need say that this is a very popular and flourishing institution, and that it is also an economical one for students. See the announcement itself.—*Emporia News*.

We are in receipt of the biennial catalogue of the Kansas State Agricultural College at Manhattan, for the years 1875-77, published in the college printing department. It is a neat pamphlet of 31 pages, giving a full statement of the management of the institution and the branches taught.—*Garnett Plaindealer*.

The biennial catalogue of the State Agricultural College, a very neat pamphlet from the College printing-office, comes to hand, and speaks very well for the institution. Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade*.

Elsewhere will be found the advertisement of the Agricultural College. It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader*.

We would call the attention of those of our readers who are desirous of securing a practical education for themselves or children, to the advertisement of the Kansas State Agricultural College, which appears in another column of this paper. No tuition or contingent fees. Read for yourselves.—*Topeka Democrat*.

Attention is directed to the new advertisement of the State Agricultural College in this issue, the Fall Term of which opened on the 23d ult., and will close Dec. 20th. This is the only school in the State which teaches practical education,—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*Lawrence Standard*.

We desire to call the attention of our readers to the advertisement of the Agricultural College at Manhattan, which will be found in another column of this week's *Democrat*. This College is an old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education. They charge no tuition or contingent fee.—*Council Grove Democrat*.

We invite attention to the advertisement of the Agricultural College, at Manhattan, Kansas, which will be found in our issue this week. Under Pres. J. A. Anderson's very able management, this State Institution has attained a degree of perfectiveness in all its various branches that is not only creditable to the manager, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal*.

The fall term of the Agricultural College at Manhattan, began August 23d with a large attendance. We notice among the Faculty the name of Miss Carrie Steele, as Teacher of Instrumental Music. Miss Steele is a resident of Osage Mission, a very worthy young lady, an excellent performer and teacher. We hope the College will be largely attended, as it was never in the hands of a better faculty.—*The New Century*.

We desire to call the attention of the parents to the advertisement of the State Agricultural College, to be found in another column. If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose than the Kansas State Agricultural College, located at Manhattan.—*Wyandotte Herald*.

We are in receipt of the biennial catalogue of the Kansas State Agricultural College, for the years 1876-77. It is a thirty-two page pamphlet, exceedingly well printed and reflects credit on the printing department of the college from which it emanated. It contains the course of instruction, and the names of the students in attendance for years 1876-77. Copies may be had on application to Jno. A. Anderson, President, Manhattan.—*Wellington Press*.

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College, at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post*.

We have received the biennial catalogue of the Kansas State Agricultural College at Manhattan. After giving it a careful examination we believe they have done just what they claim. They say:

"Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations."—*Blue Rapids Times*.

The advertisement of the State Agricultural College appears in this issue of the *News*. This College is one of the best educational institutions in the West, and should be sustained and kept in a flourishing condition. The President, Jno. A. Anderson, is one of Kansas' most brilliant men. He conducts the affairs of the College on strict, economical, practical principles, and makes the institution almost a part of himself. Many of the new settlers in Kansas know very little of this State institution, and they will do well to study its objects, plans, etc.—*Harvey County News*.

We call attention to an advertisement of the Kansas State Agricultural College in another column. A catalogue of this institution lies on our table. While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The institution is too young to call up the full rounded lives of influential and successful graduates as most potent witnesses in behalf of the college. Time, we have no doubt, will furnish these. But as things now are, the State is safe in offering its best material to the hand of training and instruction there.—*Valley Falls New Era*.

We call attention to the advertisement of the Kansas State Agricultural College, which appears in our columns this week. This institution is now first-class in every respect. Its chief end and aim is to afford to the student every facility for acquiring a practical education,—an education that shall be of use ever afterwards in fighting the great battle of life. Such a departure, of course, must meet with difficulties, both as to means and appliances for doing its work and in overcoming the habits and prejudices of the people. But in Kansas at least, this true plan of educating the workers seems to be succeeding finely on its own intrinsic merits, and the Kansas Agricultural College should be appreciated and patronized by an enlightened, progressive people.—*Junction Tribune*.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 15, 1877.

It is estimated that the States of Minnesota, Iowa, Wisconsin and Kansas will have 117,000,000 bushels of wheat to sell this year, or 56,000,000 bushels more than last year.

THE United States produced last year a cotton crop worth about \$250,000,000, and a corn crop worth about \$583,000,000. Of a total agricultural product of \$4,000,000,000, the corn crop forms the largest item.

MORE than 5,000,000 cans of corn are now packed in Maine annually, and sold in every part of the world, yielding a business to that State of about \$1,250,000, and giving profitable employment to from 8,000 to 10,000 people during the season.

THE present population of Kansas is over half a million. The total grain crop of this year is expected to amount to 120,000,000 bushels, of which about 80,000,000 will be corn, nearly 20,000,000 wheat, and the remainder oats, barley, rye and other small grains. The value of the agricultural products in 1875 was over \$43,000,000; this year it is estimated at \$60,000,000.

A GENERAL revival in business appears to be at hand. Our exchanges, east and west, all note an improvement suggestive of better times. The Philadelphia *North American* says that the indications of increasing activity in trade in Philadelphia are of the most favorable nature. At Baltimore the merchants are greatly encouraged, and the *Sun* declares that "not for several years has business opened so early in this city, or upon a scale so extensive." The outlook is good for all throughout the country, and we may consider that the worst has passed, and that the days of prosperity are dawning once more upon the land.—*Atchison Champion*.

Felter's Book-Keeping.

Prof. S. A. Felter has written, and George W. Martin, of Topeka, has printed "The Elements of Book-keeping for Common Schools"—a book of 213 pages. It is the first text-book written by a Kansan and printed in Kansas. Prof. Felter's series of arithmetics are well known. They are all published in the East and have a constant and extensive sale. He has also written a series of books for district school officers. They are published by Martin, and are now largely in use.

The present book seems to be a very admirable one. It makes the intricate art of book-keeping so plain and clear that all the advanced pupils in public schools can easily master it. The printing is the very best, and equal to the best eastern work, while superior to a very large portion of it.

We observe that the problems give the names of persons now living, and the name of the Kansas towns in which they live. This practice has an odd look in a school book, but it is one of the ways that Kansas takes to advertise. This book is one that fully deserves to be in the hands of every school boy to familiarize him with the ways of business, but of course professional book-keeping will always be confined to a small class of persons who have special qualifications for the business.

We congratulate the author and the publisher on this handsome specimen of book-making.—*St. Joseph Herald*.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas. 9-1f

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-1f

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

A Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kas. 8-1f

Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the KANSAS FARMER very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks"*. I read your FARMER with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)*. Master M. E. Hudson, of the State Grange, says: "I never forget to mention the KANSAS FARMER as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas. 38-3m

KANSAS STATE AGRICULTURAL COLLEGE.

Board of Regents.

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D. J. BREWER, Lecturer on Practical Law.
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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, SEPTEMBER 22, 1877.

No. 23.

THE INDUSTRIALIST.

Published every Saturday by the
PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

It won't be long now before men who can't tell a rutabaga from an old tin pail will go out to the country fairs and begin their orations with, "Fellow-farmers."

CHAUTAUQUA county comes to the front with millet sixty-four inches long, and well headed.—*Exchange*.

Pshaw! That's short. A specimen of Wilson county millet was left at the *Citizen* office recently that measured eighty-four inches.—*Fredonia Gazette*.

THE following is from the Philadelphia *Presbyterian*: "It has been found that the wheat grown in Kansas produces a flour which can safely be transported across the tropics. At present Virginia wheat has a monopoly of the intertropical and South American trade but as the product yearly falls off and the demand yearly increases, new fields for its cultivation are needed, and Kansas is the quarter to which shippers are looking. Kansas can now go in and win."

THE Atchison *Champion*, on the subject of the county normal institutes, says: "The system has, of course, not yet had a fair trial. But it has won such favor during the past few months that it will secure, in the future, a better chance to demonstrate its value and utility. And it is certainly an immense improvement on the normal school system. That simply provided, at the expense of the State, superior local schools for a few favored localities. The county institutes instruct and improve those who are actually engaged in the work of teaching in every county. Their benefits are thus conferred upon the men and women who are the real educators of the children; upon those who have made teaching their business, and are anxious to excel in the vocation they have chosen as their life work."

TALK about energy and enterprise, there is a young woman (yet in her teens) in this vicinity who has not only kept house for her father, taken the sole charge of a younger brother, and earned enough money by working out to buy a lot and purchase lumber for a house, but has actually helped to build the latter—and all within the space of two years. And, just by way of extras, in the meantime, she has added to her worldly accumulations a half dozen head of cattle, the hay for which she assists in cutting and ricking for winter use. She is a perfect bundle of energy and perseverance, but no one, to see her in public, would suppose she had performed such a herculean task, for her physical organization seems rather delicate than otherwise. Here's a prize for some goahead, honest young man, worth striving for.—*Emporia Ledger*.

How not to Drown.

Men are drowned by raising their arms above water, the unbuoyed weight of which depresses the head. Other animals have neither motion nor ability to act in a similar manner, and therefore swim naturally. When a man falls into deep water, he will rise to the surface, and will continue there if he does not elevate his hands. If he moves his hands under the water in any way he pleases, his head will rise so high as to allow him free liberty to breathe, and if he will use his legs in the act of walking (or rather walking up stairs), his shoulders will rise above the water, so that he may use less exertion with his hands, or apply them to other purposes. These plain directions are recommended to the recollection of those who have not learned to swim in their youth, as they may be found highly advantageous in preserving life.

PHYSIOLOGY protests against the strained and artificial attitude which the horse is compelled to assume, and which must certainly lessen his power of drawing weights. Humanity and common sense protests against the infliction of this constant gagging strain upon the sensitive mouth of an animal whose mouth is used by the driver as the principal means of guiding and directing him. Nor can any one who has any real knowledge of or pleasure in the study of animal forms feel otherwise than gratified at the free and unconstrained attitude of a horse driven without bearing-reins. No good coachman uses bearing-reins for a horse from which he desires to get the full amount of work or which he desires to leave at ease. Their employment is, indeed, merely a senseless fashion, which has absolutely nothing to recommend it; and in favor of abolition there are reasons so many and decided that we hope that not many years will pass before they are not only disused but forgotten.—*British Medical Journal*.

One of the Most Fatal Errors of Modern Society.

There are more young American men in the penitentiaries in this country learning trades than there are out of them. The principal cause of this is that we are educating our young men for gentlemen—trying to make lawyers, preachers, doctors and clerks out of material that nature intended for blacksmiths, bricklayers, carpenters, tailors, and other honest "hewers of wood and drawers of water." It's a mistake, and a big one, to teach boys and girls to believe that to labor is disgraceful and to do nothing for a living is more becoming the society in which they expect to move and have the respect of. Hang such society! It is rotten to the core to-day, and there are many men's sons and daughters who are now being educated to play the part of "leading lady" and "walking gentleman" in the great drama of life, who will light out for a poor house or a penitentiary before they have played their parts and the curtain drops. Go to work!—*Louisville Courier-Journal*.

HERE is an extract from the *Beloit Gazette*. It cannot too often or too vigorously impressed: "The calamity of 1874 drove many men from Kansas. These parties wandered into almost every State in the Union, in their vain endeavor to find some place better than Kansas. Of these, all who could return have done so and reiterate the same old story, 'Kansas is good enough for me.' Many who have been unable to return have written their regrets that they ever left. Still we find some who are not satisfied with Kansas, and desire to leave; if they should leave it would be to return within eighteen months satisfied. Will not our grumblers take warning from those who sought in vain for a better country? No, they will go and look about for themselves and return older, poorer, put wiser men."

Why They Often Fail.

Young men often fail to get on in this world because they neglect small opportunities. Not being faithful in little things, they are not promoted to the charge of greater things. A young man who gets a subordinate situation sometimes thinks it not necessary for him to give it much attention. He will wait till he gets a place of responsibility, and then he will show people what he can do. This is a very great mistake. Whatever his situation may be, he should master it in all its details, and perform all of his duties faithfully.

The habit of doing his work thoroughly and conscientiously is what is most likely to enable a young man to make his way.

With this habit, a person of only ordinary abilities would outstrip one of greater talents who is in the habit of slighting subordinate matters. But, after all, the mere adoption, by a young man, of this great essential rule of success, shows him to be possessed of superior abilities.—*Atchison Champion*.

Prospects for Immigration.

Everything points to a very large immigration of forehanded people to our State. The immense crops of the last two years, and the consequent flourishing condition of our agriculture, is attracting general attention. The *Commonwealth* learns that the demands upon the State Board of Agriculture for statistics and information of every description relating to Kansas resources and inducements continue unabated. During the winter and spring a much larger proportion of agricultural reports were sent to eastern parties than were delivered at the office here. It is a significant fact that the situation is now changed, more reports being delivered to the same class of people *in person* than are sent out, showing that the facts and figures presented were such as to induce them to prospect for themselves, and they are now with us. The editions of the monthly bulletins have been inadequate to supply the call for them. One man asks for one hundred copies to distribute among the farmers of his county.—*Lawrence Journal*.

SEND for a catalogue of the Agricultural College.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 22, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE following corrections in the newspaper list have been received since our last:

Brown county—*Kansas Herald*, S. L. Roberts and M. E. Foote, Hiawatha. Bourbon county—*Camp's Emigrant's Guide* (monthly), C. Rollin Camp, Fort Scott. Labette county—*Daily Outlook*, J. P. Coffin, Parsons.

The revised list will be sent to the press in a supplement with our next number.

HON. T. H. CAVANAUGH, Secretary of State, has made a valuable addition to the stock interest of Kansas in the shape of a prize herd of twenty-two Herefords. Katie, a four-year-old cow, took the first premium at the Centennial, and the bull is a late importation from England. The Hon. Tom exhibited a part of the herd at Kansas City and quietly walked away with all the prizes, which served the Missourians right. He also has some fine Cotswold sheep and Berkshire pigs.

WE acknowledge the receipt of a pamphlet containing the papers read before the last meeting of the State Teachers' Association, gotten out by State Superintendent Lemmon for gratuitous distribution among the teachers of Kansas. It was printed at the *Kansas Farmer* office, and is the best work we have seen from that establishment. We shall refer to it again. The addresses published are: "The Opening Address," by Prof. L. B. Kellogg; "What is a Practical Education," by Prof. I. C. Scott; "English Grammar in District Schools," by Prof. L. A. Thomas; "Comparative Grammar," by Ernest Kuehl; "Grammar at the Normal Institutes," by Prof. Robert Hay; "The Metric System," by Prof. Robert Milliken; "Factor and Product," by Prof. R. S. Iles; "The Place and Value of the County Normal Institute as an Educational Factor," by Prof. C. R. Pomeroy; "Elementary Science for the Common Schools," by Prof. W. K. Kedzie; and "Words," by Prof. A. M. F. Randolph. Much credit is due to Prof. Lemmon for popularizing the work of the Association and giving to their excellent papers a wide distribution. Persons who may want a copy can secure it by addressing Prof. Lemmon at Topeka.

Felter's Book-Keeping.

Felter's Book-Keeping is receiving universal commendation from that class of persons who are best able to judge of its merits, namely, the business men and practical accountants of the State. They speak of its simplicity, clearness and directness in the highest terms and upon the best

grounds. As a text-book for use in the common schools, it is certainly the best that has yet been issued. Heretofore, instruction in book-keeping has been rather the exception than the rule of our district schools, and for two reasons: first, the difficulty of the subject; and, secondly, the expensiveness of the books. Really, the difficulty has not been in the subject itself so much as it has been in the foggyiness of its presentation, which is true of many other branches,—that blessed English grammar, for example. This objection Prof. Felter has removed, and no teacher can longer urge the lack of a suitable text-book. A boy of ten can comprehend it quite as easily as an arithmetic.

George W. Martin has removed the second objection by fixing the retail price at eighty-five cents. For such matter and such workmanship, it is puzzling to see how he can afford such a rate, but he does. Every school in the State should include book-keeping in its course of study, and since the publication of this text-book there can be no reasonable excuse for a neglect so to do.

As Alfred Gray, Secretary State Board of Agriculture, justly remarks, "It will give a new impetus and courage to those who are demanding a more practical or business elementary education for the sons and daughters of farmers and mechanics, who are compelled to leave school for the farm and shop at an early age." Sample copies sent to teachers and school officers for 40 cents. Retail price, 85 cents.

Public Schools.

The dissatisfaction with the course of study followed in the common schools is becoming more general and outspoken. We clipped from the educational column of the *North Topeka Times* the scathing article of Richard Grant White, on "Every-day English, in which that noted author pounces on "grammar" very much as a hot boy does on a luscious water-melon that has run away from the maternal vine and tumbled into his remorseless paws. This article is one of a series furnished to the *New York Times*, and we hope that Prof. Gage will procure the rest.

In a late number of *Harper's Weekly* appears the following additional slash:

That one may succeed in literature without the study of what is called English grammar is shown by the fact that scarcely any of the great writers and speakers of English, before the present century at least, were at all instructed in that much-vaunted "branch" of education.

This week the *Commonwealth*, at the close of a long review of a new system developed by a Mr. Kellogg, of New York City, says:

We may be mistaken and old fogyish, but it does seem to us as though our schools were "graded" to death. Children crammed, bright children kept back to the same

level as dull ones. We cannot but believe that there is some better method than that in general use to teach our young. Whether Mr. Kellogg's plan is any better, we can't say; it cannot be worse.

And in the last *Kansas Farmer*, Major Hudson, in a strong endorsement of Felter's Book-Keeping, loses his saintly patience and slops over thusly:

It is pitiable that the larger boys and girls attending our common schools are crammed with geography, grammar and advanced arithmetic to repletion, to say nothing of history and the *ologies*, while not one in ten of these same boys and girls leave school with the ability to write a bill of sale of a load of corn, to keep an account with a field of potatoes, or even to keep an ordinary cash account of personal receipts and expenditures.

Is it not time that our farmers and mechanics take this matter in their own hands and require that their children be taught at least one science of every-day use, instead of spending their whole time in mastering the intricate problems of complex fractions, percentage and proportion, which are never heard of except in schools and text-books of arithmetic?

The favorite clipping which is now going the rounds of the weekly papers is to the effect that the printing-office is the poor man's best school; and the fact is that all men, whether rich or poor, obtain vastly more knowledge of practical value from papers than from text-books.

By our exchanges we see that State Superintendent A. B. Lemmon has been lecturing at several points, taking the ground that the course of study for the public schools, so far from being a stairway leading to a university education, should be directly and solely framed for the benefit of those who go from the school into practical life. Some time ago Governor Anthony called attention to the fact that for every pupil in the common schools who enters any of the higher institutions one hundred and thirty do not, and for every one who enters the University five hundred do not. Hence it is difficult to see either the wisdom or justice of shaping the public school course as a link in a chain leading to professional education, instead of as a unit by itself. Yet such has been the practice in every State, and so far as we know Prof. Lemmon is the first of the State Superintendents who has advocated the running of the public schools for the benefit of the masses and not of the professions. We heartily congratulate him.

The work of the Grange in this same direction has had a very decided effect and will have a still greater effect. People of all classes and vocations are examining into the school question, and they are so heartily in favor of public education as to insist that it be made far more practical and effective than heretofore, and that it be stripped of its flummery and slosh. The same principles of sense and business which govern other matters will be applied to education, and the struggle has fairly begun.

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 22, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

Several locals are crowded out this week.

President Anderson has been "chilling" again.

Senator P. B. Plumb and Albert Griffin, of the *Nationalist*, paid their respects to the College yesterday afternoon.

The Alpha Beta Society report was not received in time for insertion this week. The Society held a very interesting session yesterday afternoon.

Mr. John E. Rastall, of Topeka, formerly editor of the *Junction Union*, dropped in on us rather unexpectedly last Saturday afternoon. We were glad to see him, but wish he could have remained longer and visited the various departments.

The *Eureka Herald*, after copying our notice of Mr. Godfrey's fruit, makes the following remarks:

Mr. Godfrey's father was among the first of this county to give particular attention to fruit culture. No county in the State can to-day show finer varieties of peaches than ours. We have many orchards producing peaches similar in quality to those above mentioned, some of them supplied by trees from Mr. Godfrey's nursery.

At a late meeting, the Young People's Christian Union elected the following officers for the ensuing year: President, A. A. Stewart; Vice-President, George A. Gale; Secretary, Arthur T. Blain; Treasurer, Miss Josie Harper; Librarian, Miss Anna Haines. We hope the students will remember that they are cordially invited to attend the meetings of this organization.

We received a visit on Thursday morning from P. M. Hinman, of Modoc, Colorado, and James Daily, of St. Mary's, Canada. Mr. Hinman is a member of the Colorado State Board of Agriculture, having in charge the establishment of an agricultural college for that State, and has come East for the purpose of attending the National Agricultural Congress at Chicago and visiting the leading agricultural colleges of the country. Mr. Hinman says that they desire to profit by the experience of other colleges and avoid the mistakes which they have made. He seems to have a pretty correct idea of what an agricultural college should be,—the kind of education it should furnish and the relation it sustains to the people of a State. The Colorado College is to be located at Fort Collins, in Laramie county, some fifty miles north of Denver. Mr. Hinman visited the various departments of the College and expressed himself well pleased with what he heard and saw. He promised to call again on his return home in November.

The Webster Society met Saturday, Sept. 12th, at 7:30 P. M., President Godfrey in the chair. After roll-call and prayer, the Society proceeded to the exercise of spelling in the place of the regular debate, according to previous arrangement, the President pronouncing the words. The exercise was a very agreeable and profitable one, and all seemed to enjoy it. Next came extemporaneous speaking with much interest. Mr. Cox declaimed and Mr. Salter read an essay on "The benefits of a literary society." Under the head of "new business," a vote of thanks was given to President Anderson by the Society for a copy of the "Editor's Annual." Question for debate at next meeting: "Resolved, That science gives a better idea of the Creator than the Bible." Speakers on the affirmative, Messrs. Todd, Godfrey and Harvey;

negative, Messrs. Salter, Anderson and Buell. The Society meets every Saturday evening in Telegraph Hall. All students are invited to attend.

REPORTER.

Students are still rolling in at the College, and the prospect for a large attendance is very encouraging.—*Enterprise*.

The champion apple grower of Kansas is Welcome Wells, of Pottawatomie county. He has the largest apple orchard in the State, and it is said that he will realize \$5,000 from the fruit it produces this year. Mr. Wells is a member of the State Senate, and is the veteran of the body in age, being almost in his seventieth year.—*Fredonia Gazette*.

The following items are taken from the *Nationalist*:

Louis Humphrey, a College graduate, is teaching school on Fancy Creek.

The conviction seems to be universal that our fair is to be a big thing this year, and that feeling itself will do much in making it a success. But few county fairs will be held this fall, and, as our folks challenge the world, a great many outsiders have signified their intention of trying us on. The exhibition will, therefore, undoubtedly be very fine. We hope, however, that the farmers of Riley and Pottawatomie counties will be entitled to the bulk of the premiums.

A little destitute stranger came last week to Prof. Kedzie's and begged for food and clothing. It was one of our chilliest mornings, and the warm hearts of the Professor and his wife could not turn the little one from their doors, and they hurriedly gave her all she demanded. She was too feeble to talk but she looked the gratitude she must have felt at the kindness and care bestowed upon her. We doubt not the little stranger will be heartily welcomed into the home and hearts of Mr. and Mrs. Kedzie, and, God willing, they will keep the dear one, and love, cherish and train her for a life of usefulness here and a life of peace hereafter.

The announcement of the State Agricultural College appears elsewhere in these columns. The President is a live man, and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun*.

The biennial catalogue of the Agricultural College is on our table. It is the work of the institution, and a neater pamphlet is seldom seen. They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Expositor*.

Read the advertisement in another column of the Agricultural College at Manhattan. This is one of the best institutions in the West, and President Anderson is one of the most experienced and practical men in the country.—*Lincoln Center Register*.

The Agricultural College gives a practical as distinguished from a professional education. It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union*.

The State Agricultural College has an advertisement in the *Herald* this week. That institution is becoming a very creditable one, and the people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald*.

In another column will be found the advertisement of the Agricultural College, located at Manhattan. It is one of the best seats of learning for farmers and mechanics in the State. Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette*.

In an other column will be found an advertisement of the State Agricultural College at Manhattan. This is one of the best schools in Kansas. Farmers and other citizens who expect to send their young men or women from home to school, should address the President of this school.—*Troy Bulletin*.

Our readers will not fail to notice the advertisement of the Kansas State Agricultural College. The fact that Jno. A. Anderson is its President renders it unnecessary for us to say that the Agricultural College is a superior institution of learning. Read the advertisement, and, if occasion requires, address the President at Manhattan, Kansas.—*Minneapolis Sentinel*.

In another column will be found an advertisement of the State Agricultural College at Manhattan. This is one of the best educational institutions in the State, and combines the practical with the theoretical in a most satisfactory manner. Anderson county patronizes foreign institutions of learning quite extensively, yet we have not had a student in the Agricultural College for years. This should not be the case.—*Garnett Plaindealer*.

The attention of our readers is called to the advertisement of the Kansas State Agricultural College, in another part of this paper. This institution is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin*.

In this issue we insert advertisement of Kansas State Agricultural College. This institution has a large attendance of students, and is a credit to any State. Her facilities and course are sufficient for obtaining an education equal to any of the eastern and older States. Any of our young friends who contemplate attending college anywhere we would advise to address the President, Jno. A. Anderson, Manhattan, for catalogues, etc.—*Cherry Vale Leader*.

Rev. John A. Anderson, the President of this Institution is a live, active, energetic and capable man, and under his guidance and control we predict that the Agricultural College will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald*.

Attention is called to the new advertisement of the State Agricultural College at Manhattan. This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Excellent facilities are there afforded for securing a thoroughly, practical education, absolutely free. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph*.

We attract attention to the advertisement of the Agricultural College, located at Manhattan, Kansas. It is an institution that every Kansas farmer should feel proud of. Any young man graduating at that College will be able and willing to do business on the square, and become a finished as well as a practical farmer. You won't see that style of men running around loose, nor hear them talking about "farming won't pay." They will make it pay and have some fun besides.—*Farmer's Advocate*.

We call the attention of our readers to the advertisement of the Kansas State Agricultural College, appearing now in this paper. This institution for practical education is too well known in Kansas to need a word of commendation. It is the equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere. Students can enter at any time.—*Washington Republican*.

We would call attention to the card in another column of the State Agricultural College. Its able President, Rev. Jno. A. Anderson, whose views of education are so wise and practical, has impressed his own enterprising spirit upon the life of the institution, and has won for it an enviable reputation for the thoroughness of the instruction there given, and for the fact that there may be obtained a complete industrial education. Every friend of education will wish the institution continued and increased success.—*Concordia Empire*.

We call attention to the advertisement of the State Agricultural College, to be found in another column. There ought to be one thousand students attending the present term of this College, and our country should be receiving some benefit from this excellent institution. As many of our young men and women should attend this school as can possibly be spared from the farm. As a rule, the student that has to struggle the hardest to get an education makes the most of it.—*Ellsworth Reporter*.

The Agricultural College at Manhattan, as is well known, is one of the best educational institutions of our State. Its work is eminently practical and remarkably thorough. It prepares the young for the duties and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study. Hon. J. A. Anderson, the President, is rapidly placing the institution far above what it has ever been in the past. The fall term opened Aug. 23d. For further particulars address the President.—*Chetopa Advance*.

We direct attention to the advertisement of the State Agricultural College, to be found elsewhere in this paper. Under the management of President Anderson this stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. It is no fault of the College that Riley county furnishes a large majority of the students; if its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State. Its facilities for accommodating students are ample and the arrangements for perfect home life are complete. None need fear for the moral training or intellectual growth of their children who commit their education to this institution.—*Burlington Independent*.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Township Books. Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

Bookseller and Stationer.—S. M. Fox dealer in Fine Stationery, Pocket-Books Envelopes, Gold Pens, Blank Books, etc. No. 127 Poyntz Avenue, Manhattan. 19-3m

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

Printing!—Daily instruction and drill in the work of a First-Class Printer. The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that taste necessarily exercised by every good Job Printer. The Printing Department is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer. Besides regular class instruction in printing, the weekly publication of the INDUSTRIALIST by the Department furnishes advanced students the requisite drill in newspaper work.

The Farm Department State Agricultural College

Offers for sale

YOUNG SHORT-HORN BULLS of the highest breeding, together with JERSEYS and GALLOWAYS. Also, a very fine lot of

BERKSHIRE PIGS, eligible to record and the get of the celebrated boars Lord Liverpool and British Sovereign II. We have also for sale a few choice

ESSEX PIGS, straight Jos. Harris stock, of both sexes. Our prices place this stock within reach of the general farmer. Address,

EDWARD M. SHELTON, Sup't Farm,
Manhattan, Kansas.

(11-tf)

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Marsh Harvester for Sale.—This machine has never been in use to the extent of a day's work. Price, \$100. Address, E. M. Shelton, Manhattan, Kas. 9-tf

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-tf

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

A Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas. 8-tf

Kansas Farmer.—A splendid Farm and Family Journal. In its 15th year, 10-page weekly. \$2.00 per year. Original, Independent and Progressive.

Has quickly taken a high place among agricultural journals.—*N. Y. Tribune*. It has been conducted with energy and ability, and we have considered it among the best of our exchanges and a worthy representative of the West.—*Philadelphia, Pa., Practical Farmer*. Our Kansas friends should feel much pride in the high character and sterling worth of their State agricultural paper.—*National Live Stock Journal*. I like the KANSAS FARMER very much, and as early as my present engagement will permit I shall esteem it a pleasure to write for you on the terms you propose.—*Jos. Harris, of Moreton Farm, author of "Walks and Talks."* I read your FARMER with deep interest.—*Wendell Phillips*. Bears unmistakable evidence of the proverbial energy and enterprise of the West.—*Golden Era (Ill.)* Master M. E. Hudson, of the State Grange, says: "I never forget to mention the KANSAS FARMER as being worthy the support of all patrons."

THE AMERICAN YOUNG FOLKS, the best and cheapest Boys' and Girls' paper published. Fifty cents per year. Copies of both papers sent for 3 cent stamp. Address J. K. Hudson, Topeka, Kansas. 38-3m

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, SEPTEMBER 29, 1877.

No. 24.

THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

Ultimate America.

Extracts From the Chicago Lecture of Rev. Joseph Cook, of Boston.

It is not commonly known even in cultivated circles that the amount of arable soil in North and South America is greater than that in Europe, Asia and Africa taken together. Although less than half the size of the Old World, the American Continent contains a greater extent of productive soil. This supreme fact is nowhere noticed by DeTocqueville; but, astonishing as the assertions appear that the New World has more useful land than the old, and can, therefore, sustain a greater population, we shall cease to doubt these suggestive propositions if we rise up for a moment in thought to a point from which we can see both the great lakes and the Amazon; and letting the planet roll beneath us, its green and yellow continents set in the illuminate emerald and purple and azure of the great deep, compare the subtleties of physical geography in the two hemispheres, as we look down with the eyes of a Humboldt, a Ritter, an Agassiz, a Dana and a Guyot.

I FIND THE MOST STRIKING PHYSICAL CONTRASTS

between the Old World and the New, and all to the advantage of the productive power of the soil of America. I am fascinated with a rain map of the globe, for it shows that my country is on the humid, and therefore the fertile, side of the world.

1. This continent is narrow; hence the ocean winds water it well. The Old World is wide; hence the ocean winds water it poorly. Sahara, Arabia, Persia, Central Thibet, are almost or wholly rainless. We have no Sahara, no Arabia, no Persia.

2. In the New World the mountain chains on the east side of the continent are low; in the Old World the mountain chains on the east side are high. But the earth rolls east; and, therefore, the trade winds blow west. The permanent winds of the globe, bearing the fertilizing exhalation of the ocean, breathe always out of the morning. They impinge upon the breast of the continents on the side of sunrise. High mountain chains on that side shut out the winds largely from the Old World; low mountain chains on that side admit them to the New. If the Himalayas and the Mountains of the Moon stood on the west side of Africa, Sahara would cease to be a desert. If the Andes stood on the east side of South America, the Amazon Valley would become a desert. A branch of the trade wind breathes through the West Indies into the Gulf of Mexico and ascends the Mississippi Valley. Guyot says that if that Gulf had a chain of mountains on its

north side as the Mediterranean has, that valley would be almost rainless.

3. As the more important wind blows from the east, ours is the continent of wet, ocean winds; the Old World, of dry land winds. It is a dry land wind that makes Sahara; and this land is made dry by the breath of the Old World and its height on the east. Under the tropics, the Old World receives seventy-seven inches of water by the year; America, 115.

4. The New World, therefore, as Guyot has shown, is the humid, the Old World the arid side of the globe.

5. America, therefore, has great, the Old World, small river systems. There is no position in which the Mississippi could be placed in Europe, south of St. Petersburg, and find room. Join in one current the Lena, the Obi, the Amoor, the Yangtse, the Hoang-ho, the Yenesei, the Indus, and the Ganges, and these eight principal rivers of Asia do not carry to the ocean as much water as the Amazon.

6. America is the continent of fat plains; the Old World that of frozen or scorched plains. In the New World the Mississippi and the Amazon traverse plains whose fertility no other part of the globe can equal; but in the Old World the great plain extending from Norway to Kamschatka is locked in perpetual frost, and that which stretches from the western shoulder of Africa to the heart of Asia is made barren by tropical heat.

7. America is a concave, the Old World a convex continent. Our mountain chains run north and south; those of Asia and Europe east and west. Ours, therefore, have the sun on both sides, and culture with us can climb the mountains; those of the Old World have the sun on the south side, and on the north side are comparatively infertile.

8. Cooling inlets of the ocean, like the Gulf of Mexico and the Caribbean Sea, are found in America under the equator; but the hottest regions of the Old World are distinguished by distance from the ocean. The Mediterranean lies too far north to be of as much service to the Old World's fertility as the Gulf is to that of the New; and it is, besides, shut in by the Alps and Sahara.

9. America is high and the Old World low under the equator. The table-lands of Mexico and of Brazil are comparatively cool, though in the tropics; but Sahara is so low that it might be, as it ought to be, made a navigable sea by a channel from the Mediterranean or the ocean.

10. The New World is wide there. The fertility of the New, therefore, loses less than the Old by tropical scorching. The equator, it is true, hangs under Orion, directly above the mouth of the Amazon. But the isotherm of greatest heat runs through the mouth of the Orinoco. It cuts only through the narrow neck of South America, necklaced by oceans and fanned by wet winds; but it burns through Africa from tawny shoulder to tawny shoulder, each unsprinkled by the dew of the sea.

Cut out from the 31,000,000 square miles

of the Old World and the 15,000,000 of the New all mountainous, frozen and arid regions. The remnant of productive soil, scholars say, is about 10,000,000 square miles in the Old World and 11,000,000 in the New. In America, in this estimate, I reject as frozen all territory north of a line running through the Straits of Belle Isle, the south end of Hudson Bay and the north of Vancouver's Island. I exclude the sterility in the Rocky Mountains and the Andes. I omit the dry regions east and west of Colorado and on the coasts of Chili and Peru. I exclude the sterile portions of Patagonia. In the Old World I shut out Sahara, great parts of Arabia, Persia and Central Asia, and Northern Russia and Siberia.

Here, then, bursts upon us the greatly SUGGESTIVE AND ORGANIZING AMERICAN FACT

that the New World can sustain a greater population than the Old. If it can, probably it ultimately will. In this majestic circumstance I hear the footfalls of fate, with which it infinitely behooves the dim star of present ages to keep step. America is yet in the gristle. Her soft young feet, not without some stain of bloody dew, have wandered so little inland on the continent of unexplored American time, that the eternities, breaking on the shore, kiss them yet with spray out of pity for their infancy.

Some of us here are young, but we have seen the population of our country increase from 17,000,000 to 40,000,000. In this audience are those who may live to see it increase from 40,000,000 to 100,000,000. Sir Henry Holland thought that America changed so rapidly as to require a visit once in five years. It has been proved by the experience of the United States that a prosperous community, in possession of an abundance of unoccupied soil and not aided by immigration, will double its number in twenty-five years. The Anglo-Saxon populations of the New World, as a whole, double once in each quarter of a century. But the doubling is now of great and growing numbers. The civilized white population of the United States increases at the rate of three per cent annually. DeTocqueville calculated that, on a breadth extending from the Lakes to the Gulf, it advanced westward seventeen miles each year, and he professed to be profoundly moved by the spectacle of this deluge of men, driven on by the hand of God; but the human surge moves yet more rapidly now. Its progress was little checked by the revolution, and not very greatly impeded even by the Civil War.

In 1790, the pivotal point or centre about which all the population of the United States would balance, was a little east of Baltimore. It has been moving westward; in the year of Lincoln's election it had crossed the Ohio; and if its position were, as it should be, marked by a blazing star at the summit of a monumental shaft, carried from time to time toward the setting sun, that star would rest now a little east of Cincinnati.

[Concluded on fourth page.]

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 29, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

WE have received a neatly printed and carefully prepared history of Shawnee county, by W. W. Cone, which cannot fail to be of great interest to the settlers and denizens of Shawnee. Published at the Kansas Farmer office, Topeka; price, twenty-five cents.

COL. S. S. PROUTY will take charge of the Junction City Union on October 1st. Having a warm side for that sheet which has made us sweat many a hot day, we heartily congratulate its readers upon the good fortune which secures for them the ability, experience and genialness of Col. Prouty. He has spent his life in the business and understands it thoroughly; and fully deserves the reputation of being one of the best newspaper men in Kansas. We are glad that Prouty and Martin have hitched teams. Shake, both of you—there!

WITH this number we send to the press a supplement containing a list of the newspapers published in Kansas. The edition was printed on Wednesday and the type distributed. At that date we patted ourselves on the back for having gotten out a correct list. Every mail since has brought changes, and we are not crowing to any remarkable extent over the correctness of that list. As the INDUSTRIALIST goes regularly to every newspaper in the State, we will be glad to notify the fraternity of additional corrections, on the receipt thereof. Correct supplement as follows:

Cherokee county: Add Cherokee Index, Hoffman & Metcalf, Columbus, which is removed from Cherokee, Crawford county.

Phillips county: The Kirwin Progress has been sold by E. F. Robinson to Jerome & Campbell, publishers, and will be edited by George O. Blake, Kirwin.

Harvey county: Add the Zur Heimath (semi-weekly), Mennonite paper, Western Publishing Company, Halsted.

Shawnee county: North Topeka Times, Frank A. Root and Geo. S. Irwin, editors and publishers, North Topeka.

— county: Louisburg Herald, —.

Rice county: Rice County Bulletin, Bulletin Publishing Company, publisher, C. D. Ulmer, editor, Lyons.

That Chap.

Will somebody have the kindness to hunt up the chap who, at this season of the year, used to get up on his hind legs and howl about "drouthy" or "grasshoppered" Kansas as a State that wouldn't raise anything but starvation. He had a cadaverous, lantern-jawed visage; a dull eye, in which there were no gleams of determination to work; and a general looseness of gait and

shuffle that suggested the forlorn image of a sore-eared "yaller" dog under a creaking wagon.

That chap, his wife, and all of his and her relations, had a habit of being numerous around, vociferously present, and dogmatically certain that Kansas was an agricultural, horticultural, commercial, moral, political, social and eternal failure. He was extensively engaged in the prophet business, and if a goodly number of customers had only paid him regular rates for what he didn't know, that whole outfit would have just sprawled, grunted and rolled in wealth. He was great in a dry time, but gloriously immense when the 'hoppers began to put in an appearance. Then the neighborhood fairly rang with the oracular declarations of what he had tried, how his crop (chiefly weeds) had failed, and how he was going back East. He had an affection for editors, had that chap. It was just nuts for him to surround a newspaper office and hurl anathemas by the bushel at the innocent pencil-shaker for presuming to insinuate that an industrious man could make a living in Kansas. And when he crossed the line, how he swelled, puffed and snorted; and how the eastern papers rejoicingly paraded his lies as the "sad experience of an intelligent and reliable farmer who, after full trial, denounces the Great American Desert fraud and warns people against Kansas." But somehow he was always back the next year, to go over it all again.

What has become of him this season? Here is a State larger than Vermont, New Hampshire, Connecticut and Massachusetts all run into one; and supporting more than half a million of people who, on the average, are making twice as good a living as are the inhabitants of any eastern State. The aggregate value of the agricultural products harvested this year is safely estimated at \$60,000,000; and this car load of silver dollars will go into the pockets of the farmers on every township and homestead. Careful estimates say that there are 280 bushels of grain to each inhabitant in the State. After the sales and feeding of last year's corn crop, there still remain over 30,000,000 bushels of old corn to be sold or fed. For the first time fruit has been a drug; and everybody and his youngsters have had all they could eat; while Mrs. Everybody has exhausted the supply of cans in putting up stores for winter use. The cattle are too fat to give more than a general and indefinite attention to flies; and are sure of unlimited forage for a year to come.

The acreage of wheat already in and up is far greater than that ever grown in Kansas, and the prospect is as good for 30,000,000 of bushels next year as it is for 10,000,000 of bushels. As an inevitable consequence, immigrants are already pouring in;

and, just as rapidly as improved times in the East will enable men to sell their property, hundreds of thousands of solid farmers will settle in Kansas. There is to-day greater activity in the land market than there has been for three years; and this activity is only the drifting spray from off the caps of the coming waves.

Now, why doesn't that chap call in to explain how this condition of things squares with his predictions, and tell us whether we are to believe him or the facts? He might cavort around a partial failure of late-sown wheat in some localities, and standing on it with one foot might peep out a young whine; but where could he put his other leg, and about what could he raise his full-throated howl? Here is the grandest kind of an opportunity for the lugubrious prophet business, with no competition whatever, and that chap is away off in Philadelphia, instead of "improving the shining hour." Won't somebody have the kindness to send him out West? The press would like to interview him in the cause of science and veracity.

The Locusts in Kansas.

Prof. C. V. Riley writes to the *Scientific American*, under date of the 21st ult., as follows:

"In answer to many questions now being asked, I would say, that from all that can be ascertained, there is no danger whatever of another general invasion of locusts into Kansas and adjacent States this fall. This has been my opinion all along, and the experience of the past two months strengthens it. The insects that developed in and arose from the country invaded last year, flew, as I said they would, in a north and northwest direction, up to the early part of July; after which their course was more irregular, and finally set in the opposite direction; namely, southeast and southwest.

The country in which they hatched has been evacuated, and serious injury was confined to the extreme northwest counties of Iowa, and to Kandivohi, and some half dozen surrounding counties in Minnesota. With a few rare exceptions the departing swarms have been light, and have vanished beyond record without doing harm. 'What has become of them?' is a common question. They were mostly diseased and parasitized when they rose and kept dropping in scattered numbers in the country they passed over, to perish without notice and without issue. The more healthy have been lost to sight in the thinly settled regions of the Northwest. Those which arose late in June and early in July from Minnesota, after flying northwestwardly, retraced their course, and have lately been flying over Iowa, and now over parts of Kansas. They have done no serious injury, nor do I anticipate any."

THE London Ironmonger says: "Medium locks of American make are sold in Bristol at prices we cannot touch. It also states that American saws have a like advantage over those of Great Britain, and that American saddlery and harness goods have already been introduced into London. It also gives a list of articles of American manufacture which the Scotch commissioners at the Centennial pronounced superior to any in the world. Over these facts it then berates English stupidity."

THE INDUSTRIALIST.

SATURDAY, SEPTEMBER 29, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.
Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.
Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending September 27th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Inches of Rainfall.
	Max.	Min.	Mean.			
Friday.....	21	86°	53°	70°	50	28.81
Saturday.....	22	85	60	72	25	28.67
Sunday.....	23	84	54	76	25	28.66
Monday.....	24	88	52	78	25	28.71
Tuesday.....	25	82	54	69		28.76
Wednesday.....	26	77	50	70	50	28.65
Thursday.....	27	87	50	73	50	28.74

Average temperature for the week, 72°.89.
Range of temperature for the week, 38°.97.
Rainfall for the week, .97 of an inch.

Several new students this week.

Prof. Gale is attending a horticultural meeting in the south part of the State.

Lieut. Albert Todd started for Boston last Thursday morning. He is liable to be ordered to his post at Fort Adams, R. I., any time after October 1st.

The *Nationalist* offers to send one copy free to the person who will kill the largest number of hawks,—the heads to be left with J. H. Barnes, at the Grange store, Manhattan. We will add a copy of the *INDUSTRIALIST* for one year free.

Capt. Todd has gone to Boston to attend a general convention of the Episcopal Church, which meets in that city on October 3d. He will be absent three or four weeks, visiting friends and relations. We trust he may have a pleasant visit.

The rain on Tuesday night was very acceptable. It was a just reward to the sense and industry of those who have already sowed their wheat, and it also prepared the ground for those who for various reasons have been prevented from putting in their fall crops earlier.

Clair Patee is going to publish a daily paper next week during Fair. It will contain a record of each day's proceedings, and will be issued in the morning. A member of our printing class has been employed to assist in its production. Clair is just the boy to conduct an enterprise of this kind, and will get up a spicy sheet.

The Riley county Fair opens next Tuesday. The managers have put forth every effort to make this the most successful Fair ever held in this part of Kansas, and from what we can learn they will be rewarded with a realization of all they anticipate. We propose to publish as extended a report of the proceedings as our limited space will allow.

A portion of the library has been brought down from the old College and placed in Prof. Ward's class-room. This adds materially to the appearance of the Professor's room, and from his happy countenance we know he is satisfied with the change. The library is now open every school-day from twelve to one o'clock, and by the change is made more accessible to both the students and Professors.

The Webster Society met Saturday, Sept. 22d, at 7:30 P. M. After the opening exercises, Mr. C. E. Wood was elected a member of the Society and initiated. The question, "Resolved, That science

gives a better idea of the Creator than the Bible," was pretty thoroughly discussed, being hotly contested by either side. The judges settled the question by giving their decision in favor of the negative.

Under the head of extemporaneous speaking, various subjects were discussed with much interest. Mr. Mann declaimed and Mr. Hickey read some selections. The question selected for debate at the next meeting was "Resolved, That a man can maintain a better state of health by following the laws of his being than by consulting a physician." Speakers on the affirmative, Messrs. Harvey, Wood and Salter; negative, Messrs. Anderson, Hickey and Todd. All students are invited to attend.

REPORTER.

The Alpha Betas convened in Prof. Platt's room yesterday afternoon, and held an interesting and profitable session. The question as to whether our nation's shame is greater than her honor was discussed by A. H. Stiles and Wm. Sikes on the affirmative, and Arthur Blain and Amos Wilson on the negative. Decided in favor of the negative.

Under extemporaneous speaking, the members devoted themselves assiduously to the discussion of such vital questions as the extermination of the Indians, horse-racing at county fairs, the comparative value of the bumble-bee and tomato worm, etc., etc., *ad infinitum*. Miss Cook presented a well-written essay entitled "Going Down Hill," and Mr. Coe read a humorous article about "The Chicken."

On account of the Fair, it was decided not to hold a meeting of the Society next week. The *Gleaner* will be read at the next meeting, A. A. Stewart and Miss Josie Harper having been delegated to act as editors, and it is hoped that the members will be prompt with their articles. Mr. Wm. Sikes was appointed reporter for the Society in place of G. L. Platt who has asked for a withdrawal card. The next question for debate reads: "Resolved, That war is a greater evil than intemperance." Affirmative, Amos Wilson and Wm. Sikes; negative, H. F. Coe and Miss Cook.

Mr. Thomas Midgley, one of the proprietors of this office, thinks of visiting his old friends of the Agricultural College on his return from Kansas City.—*Minneapolis Sentinel*.

We clip the following locals from the *Nationalist* of this week:

Leslie H. Smith is to teach school on Three-Mile creek this winter.

Architect Carr was in town Wednesday. He has considerable business hereabouts, and gives good satisfaction.

Senator Plumb was in Manhattan last week, visiting old friends. While here he looked over the College farm and buildings, and expressed himself much pleased with what he saw. He was especially taken with the Galloway cattle, (which seem to us better adapted to Kansas than the Shorthorns.) The Senator is a clear-headed, energetic, practical man, and will make a useful Congressman.

See the advertisement of the Kansas State Agricultural College in this issue. This institution is one of the best of that kind in the State.—*Jewell County Monitor*.

We call attention to the Agricultural College in another column. Those desiring a practical education cannot do better than to attend the "Agricultural."—*Alma News*.

We inserted an advertisement of the State Agricultural College last week. This is one of the best conducted schools in the country. Its students all speak well of it.—*Emporia Ledger*.

Attention is called to the advertisement of the Agricultural College. This is an excellent institution, under the care of an able management, and a desirable place to get an education.—*Augusta Gazette*.

Elsewhere will be found an advertisement of the State Agricultural College. The College is building up an excellent reputation, and should be well supported, especially by those living in this part of the State.—*Abilene Chronicle*.

Parents who wish to give their children a good agricultural or mechanical education could not do better than to send them to the Agricultural Col-

lege at Manhattan, as it is the best institution of the kind in the West.—*Scandia Republic*.

See advertisement in another column of the State Agricultural College. This institution, under President Anderson's management, has taken a high position, and is entitled to the hearty support of all friends of popular education.—*Osage Mission Journal*.

An advertisement for the State Agricultural College appears in this issue. The best recommendation we can give for the institution is that several pupils from this city are now in attendance there, and are well pleased with the institution.—*Dodge City Times*.

We publish this week an advertisement of the Manhattan Agricultural College. This is one of the best places to obtain a useful education in Kansas. The aim of this College is to teach its pupils just what will be useful to them in after life.—*McPherson Independent*.

The Agricultural College gives a practical as distinguished from a professional education. It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn a livelihood.—*Chase County Courier*.

We invite attention to the advertisement of the Kansas State Agricultural College in this issue. This institution is in the management of one of the most accomplished educators in the whole country, President John A. Anderson, and is the place for obtaining a thorough and practical education.—*Winfield Courier*.

We would call the attention of our readers to the advertisement of the Manhattan Agricultural College. This institution is one of great merit, and its work of usefulness is hardly exceeded by any other institution in the State. Its course of instruction embraces the every-day practical branches.—*Peabody Gazette*.

A notice of the coming scholastic year of the Kansas State Agricultural College, located at Manhattan, will be found elsewhere. Under the able and comprehensive rule of the President, the above school has taken a place away at the head of State institutions of its class. The leading idea of the conduct of the College is to make practical men and women.—*Wichita Eagle*.

We like to get the *INDUSTRIALIST*, published in the printing department of the Agricultural College at Manhattan, under the charge of A. A. Stewart. It is refreshing to look at it from a typographical point of view, and it has a great many newsy notes inclosed in its columns. Next week it proposes to issue a supplement containing a list of all the Kansas newspapers.—*Parsons Daily Outlook*.

Probably there is no better opportunity for youths who are possessed of limited means to obtain the higher branches of a practical education, than are offered by the Kansas State Agricultural College. The legislature of the State has for the past few years been withdrawing its support from many so-called State schools and concentrating it upon a few. This has had a good effect, and the Agricultural College is one of the institutions thus effected.—*Eldorado Press*.

This College stands at the head of institutions of its kind for giving a thoroughly practical education. In it students, male and female, are required to practice a short time daily at some one of the following trades. * * * * * No tuition fee is required. Very often, even while attending, a student can earn considerable toward defraying his expenses. Some of the young men and women of Barton county of whom we know would do well to attend; and we already know of one or two who purpose to attend this season.—*Great Bend Democrat*.

The reader's attention is directed to the advertisement of the Kansas State Agricultural College, to be found in another column of this paper. Under the management of President Jno. A. Anderson, this College has become one of the most popular and practical educational institutions in the State. It educates its pupils for the farm, the orchard, the shop, the store, and then sets them adrift upon the world armed with the weapons that will, if properly wielded, make life's battle a success. A practical education is what the young man or woman most needs when entering upon the active duties of life,—and to the want of it is attributable the many wrecks that strew the shores of human action. The object of education should be to train the young for a particular calling in life. There is always a good situation at hand for the young man or woman who thoroughly understands how to do something that the world wants done. It is the object and aim of the Kansas Agricultural College to educate the young practically and thoroughly, so that when they are thrown on their own resources they will know how to make a success of life. We advise all who are anxious to thoroughly prepare themselves for the earnest duties of the farm, shop or store to attend the Kansas State Agricultural College.—*Osage County Chronicle*.

[Concluded from first page.]

It is a narrow outlook that pauses at a time when a continent that can sustain a larger population than the Old World shall have 100,000,000 people. But at that date the popular imagination stops. At the place where the popular foresight pauses, I would begin.

Suppose that there are 100,000,000 people in all America in the year 2000. It would not be at all extravagant to suppose that there will be that number in 1900; but I wish to make my estimate wildly moderate. England and Prussia, the most thickly-populated parts of Europe, now increase at the rate of more than one per cent annually. But let our emigration fall away; let wars storm over our territory from time to time; who shall say that our rate of increase, now three per cent annually, will in an hundred or two years, not be equal to that of suffocated England and Prussia to-day? Call it less or only one per cent annually, after the year 2000. Even at this percentage of increase we should double each one hundred years. Stand on the ocean shore. We see the curvature of a part of the surface of the sea; we know the law of a curve. Carry on the arc which we can measure; steady the imagination on the reason, and project the majestic meridians, and bend them in and in, until they meet 8,000 miles beneath your feet, and you feel the globe swim beneath you, afloat in the bosom of Omnipotence. This is the privilege and sublime duty of exact science. At the ludicrously cautious estimate that after the year 2000 our population will increase only one per cent annually, or less rapidly than that of England and Prussia to-day, and that in the year 2000 all America, now having 84,000,000, will possess only 100,000,000 of inhabitants, we should have in 2100, 200,000,000; in 2,200, 400,000,000; 2300, 800,000,000; in 2400, 1,600,000,000; in 2500, 3,200,000,000. The capacity of the continent is supposed to be equal to the support of 3,000,000,000.

CALL SUCH NUMBERS EXTRAVAGANT,

it is yet certain that these calculations fall short of those which average German, Scottish and English scholarship is now making to the future of America. I am little indebted to this foreign discussion, for it seems incautious. An authority like the very latest edition of the Encyclopedia Britanica, just issuing from the press, summarizes the best investigation Europe has given to this topic by these amazing words: "If the natural resources of America were fully developed, it would afford sustenance to 3,600,000,000 of inhabitants,—a number nearly five times as great as the entire mass of human beings now existing upon the globe. What is even more surprising, it is not improbable that this prodigious population will be in existence within three or, at most, four centuries." I think these dates unwisely chosen. I am aware of but three methods of estimating the future of our population. We may take as a standard of judgment either the capacity of our soil, or the law of growth ascertained by our own experiences, or the law of increase exhibited by other parts of the world. Two of these methods I have already used, but take the last, and to what astonishing results it leads! This was the standard employed by De-Tocqueville. Europe, under the bayonet and the cannon wheel, and the hoofs of war, charging in squadron after squadron; Europe which sent half the population of Germany to death in the thirty years' war;

Europe, staggering under a thousand impediments inherited from the Middle Ages, and unknown and likely to remain unknown in America; Europe, from Charlemagne to Napoleon, smitten, seared, peeled and sliced, has yet attained an average population of eighty inhabitants to the square mile. Will America have a harder fate in the next than Europe has had in the last ten centuries? What shall hinder all America from ultimately having as large an average population as all Europe? But we have 15,000,000 of square miles and Europe only 3,000,000. Look forward, then, to a population in America equal to the average of that of Europe, that is, to 1,200,000,000.

With whatever telescope I sweep the horizon, I, for one, stand in awe. I set no dates. I seek to establish approximately no definite numbers. I assert only that America can sustain a larger population than Europe, Asia, and Africa taken together; that since it can, probably it ultimately will; that we may expect as large an average population as Europe now possesses; that America is, therefore, yet in its infancy; that for these immense numbers of the human family we stand in trust; and that the age, therefore, has not yet ceased to be a crisis.

It would have been worth something at Thermopylae to have foreseen Salamis; and at Austerlitz, Sedan; and at Runnymede, America. It would have been worth something to Paul, when he went out of the Ostian gate to die, to have foreseen Constantine, and Augustine and Luther, and churches on which the sun never sets. It would have been worth something at the parting from Delft Haven, or among the secreted graves on Plymouth Hill, to have seen the savages shut up behind the Mississippi, and church bells mingling their murmurs with the Pacific seas. But, undoubtedly, God's plans for the future are as majestic as those for the past: and so it ought to be worth something now to foresee what can be in America, and, therefore, probably will be.

America will sustain a greater population than the combined populations of Europe, Asia or Africa, and yet America is in the gristle.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

The Industrialist.—A small, weekly paper, edited by the Faculty and containing fresh articles on the Farm, Orchard and Education.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

Bookseller and Stationer.—S. M. Fox dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127 Poyntz Avenue, Manhattan. 19-3m

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

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Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

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The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

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Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, OCTOBER 6, 1877.

No. 25.

THE INDUSTRIALIST.

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Prehistoric Kansas.

The efficient Secretary of the State Historical Society seems disposed to carry historical investigations in Kansas back to prehistoric times; in a manner, too, both interesting and instructive. It is a well-established geological fact that a considerable portion of the subsoil of eastern Kansas, at least, was formed as a sedimentary deposit, in a fresh water lake, or in a number of such lakes, which at one time covered large portions of the country adjacent to the Missouri River and its tributaries. This mud deposit forms perhaps the richest of the Kansas upland soils. It has been brought to view most prominently at Leavenworth, Atchison, St. Joseph, Wyandotte and Kansas City in street grading, and in railroad cuts in the eastern part of the State. This deposit has been variously named by geologists "bluffs," "Loess" and "lacustrine" soil. The study of the character of this soil, and the circumstances under which it was formed, is one of great interest both to the farmer and to the scientific inquirer. Recently the editor of the *Saline County Journal* gave a lengthy and interesting description of a capacious cave in that county, the walls, ceilings and passage ways of which are covered with "hieroglyphics," picture writing,—the work of ancient races, or of more recent Indian tribes now passed away. The *Journal* suggests that the deciphering of these hieroglyphics is worthy the attention of the State Historical Society, whereupon the Secretary of the Society sends the following communication to that paper, in which he refers to circumstances which go to associate the earliest of the human inhabitants of the Missouri Valley with this lacustrine period:

OFFICE STATE HISTORICAL SOCIETY, }
TOPEKA, Kans., Sept. 14, 1877. }

Editors Journal:—I have read with interest your account of "Palmer's Cave." Your suggestion that the inscriptions upon its walls are worthy of historical attention is a timely one. Kansas ethnology has hitherto received but little attention. Our neighboring States are quite in advance of us in this respect. Just on our eastern border have been found and subjected to scientific examination relics of the races inhabiting the Missouri Valley during the lacustrine period; the time when large portions

of Kansas, Nebraska, Iowa and Missouri were covered by a vast fresh water lake, in which was formed the deposit of beds of grey and brown marl, which underlies and forms the basis of the rich soil in all this vast region. The history of these times is found in the petrified wood and shells and bones of the trees and animals of those days, carefully laid away in the marl beds or bluff formation, deposited in this lake, and which petrifications are from time to time brought to light when wells or cellars are dug, or railroads or streets cut through these beds.

Forests of elm, sycamore, walnut, oak, and other trees like those of our present forests, grew upon the shores of this lake. The squirrel, beaver, deer, elk, buffalo, elephant, and mastodon lived in the forest upon its borders. The remains brought to light by the examinations in Pompeii, Herculaneum and Troy do not tell the history of those cities more accurately than the petrified trees and shells and bones exhumed from what was that mud deposit, tell the history of this lake and its shores.

Maj. F. Hawn, now of Leavenworth, in pursuing his land surveys under Surveyor-General Calhoun, and subsequently in assisting Prof. C. G. Swallow in his Kansas geological survey, found this lake, or Loess deposit as it has been called, in the following Kansas counties: Miami, Brown, Doniphan, Chase, Linn, Lyon, Butler, Osage, Morris and Greenwood. Prof. Swallow mentions it as forming the principal soil of cultivation in many other of our Kansas counties. Its depth is spoken of as being in places in Miami county as great as twenty feet, and in Brown county seventy-five feet.

Prof. Samuel Aughey says the Loess deposit prevails over at least three-fourths of the surface of Nebraska, and that it ranges in thickness from five to one hundred and fifty feet. Prof. C. A. White says this deposit occupies the surface of all the counties of Iowa which border on the Missouri River.

In Missouri, near Kansas City, on what were the banks of this great lake, have been found mounds which were built by people who lived at the time the waters of this lake swept its shores. Within the mounds, besides human skeletons, have been found stone implements, of peace and war, used by those people. Such implements have been found in Nebraska, deeply buried in the soil which composed the sediment of the lake; found under such circumstances as to admit of no doubt that the implements were deposited there during the time of the prevalence of the waters of the lake over that region.

Little research has been had in Kansas for relics of the tribes of the past. Yet ancient pottery has been picked up in many places. On the Solomon and the Big Blue, Prof. Mudge has seen places where such pottery was evidently manufactured. At Junction City remains of supposed ancient earth-works are seen. Hieroglyphics, perhaps similar to those seen at Palmer's Cave, have been found elsewhere, cut upon the faces of the rocks in western Kansas. But

no attempt at description or translation has yet been made so far as I know.

When the educators of the State shall have well taken hold of the study and teaching of the surface geology of Kansas, as the school law contemplates that they should do and in the manner pointed out in the admirable little Kansas school book entitled "Agricultural Geology," by Prof. Wm. K. Kedzie, of the State Agricultural College, we shall have raised up an army of inquirers and observers, in respect to this portion of the foot-stool—before the time when God left it fashioned for the inhabitancy first of the red man and since of our own race. Not the least interesting branch of this investigation will be that of the ethnological facts connected with the geological period just preceding the present. As you suggest, it will be an appropriate work for the State Historical Society to encourage such investigations.

Yours, truly,

F. G. ADAMS.

The Fruit Trade.

Kansas has a very large crop of fruit this year, and the quality is exceptionally fine. Immense quantities are being shipped from Atchison every day, and yet the season for winter fruit has hardly commenced.

It is not generally known, we think, that elsewhere the fruit crop this season is a failure. The great orchards of Wisconsin and Michigan are bare, and in Illinois, Indiana, Ohio, Pennsylvania, and several other States, the fruit crop is a comparative failure. Kansas fruit ought, therefore, to command good prices this year—especially winter keeping fruit.

Our people, however, have never devoted that attention they should to the careful picking and packing of fruit. Many varieties of apples can be easily kept until March and April, if carefully selected, picked by hand, packed in clean, dry barrels, and kept in a dry place, not exposed to frosts. In the winter time fruit always commands double or treble the price it brings in the fall, and it will pay any fruit grower to devote careful attention to its packing for the winter market.

Kansas will have to supply a very large region of country with fruit this year, and she has an abundant crop, which will fill the demands made on her if it is carefully picked and packed as it should be.—*Atchison Champion*.

THE education of the farmer must go on. There must be no halting until he is as well educated as are the members of any other class or profession. It is a burning shame that while one-half of our people belong to the farming class, they are not represented in the halls of our national legislature by a single farmer who carries on farming as a profession. We ought to have men of as much ability, knowledge and eloquence among farmers as among any of the professions, and shall have when farmers see that their sons are as well educated as are those designed for the other professions.—*Rural World*.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 6, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Kansas Academy of Science will hold its tenth annual meeting at Topeka, on Oct. 11th and 12th. We see by the programme that Prof. Kedzie presents a second paper on ozone in Kansas atmosphere, one on the Iola mineral well, and one on the "Great Spirit" spring of Mitchell county.

MR. JOHN E. RASTALL, who for some time past has conducted the *Junction Union* with decided ability, has purchased the *Osage Chronicle*, Burlingame. Mr Rastall is a practical printer, a man of probity and nerve, an editor of experience bringing to his work a well-stored memory, a logical mind and a facile pen. We wish him the best of success.

Press Changes.

Marion county: The *Peabody Gazette*. W. V. Church has sold to W. H. Walker, editor and proprietor, Peabody.

Rush Center: The *Progress*, Mitchell and Taylor, editors and proprietors, LaCrosse, instead of Rush Center.

Osage county: The *Osage Chronicle*. W. F. Chalfant has sold to John E. Rastall, editor and proprietor, Burlingame.

ONE of our old graduates who since receiving his diploma has been successfully scuffling with the world writes us: "Although receiving most of my education before the 'industrials' were introduced into the College, my sympathy was nevertheless with the 'new departure.' But not until going out into the world did I fully comprehend the meaning of an industrial education. I now only regret that the industrials were not introduced long before. No matter how good a literary education a person may acquire, he can always make use of a knowledge of practical agriculture or of skill in a trade."

Kansas Lands.

Every town in the State is receiving an unusual number of shrewd prospectors, who are looking at farms with a view to purchase. The market has been "off" for some time, and both sellers and buyers are skirmishing to find out what present prices ought to be. Owners are not half so willing to sell as they were a year ago, and are stiffening up rates most decidedly; while, on the other hand, buyers, having started for Kansas with the impression that they could take in any piece of land at their own figures, are a little checked by the tone and expectations of holders. Both parties are uncertain as to what market rates really are, and, as a consequence, only small proportions of sales as compared with enquiries

are being effected. The main body of purchasers will arrive after October, when an eastern farmer can best leave home, and the indications from all quarters are that more sales of Kansas lands will be made in the next six months than have been in the last three years.

School Books.

If there is a greater nuisance and imposition, in a small way, than the chronic changing of text-books in the public schools, we don't know what it is. Being distributed among all the patrons, the aggregate cost is never realized; and, as a rule, parents find it less troublesome to buy the books than to make a successful fight against the changes. Furthermore, the majority of parents take it for granted that the parties ordering the change, having some special information in the premises, are acting solely for the pupil's good, and that a new book is actually required.

There is not one case in a hundred where a change is really necessary, because any of the text-books now in use contain the essential principles of the given branch. Occasionally a new book will have such improvements in the arrangement or presentation of the subject as to render its use, instead of an older work, somewhat advantageous; but these instances are exceedingly rare, and even then there is no vital necessity that a sudden and sweeping change be made. But in the vast majority of cases the whole thing is a whim of a young teacher, newly clad with brief authority, or a fancy of some school officer who doesn't know much about the relative values of text-books, or the effect of certain wire-pulling by the agents and friends of publishers.

It is not difficult for any body to create "public sentiment." Thus, somebody suggests to A that a book in use is defective, to B that it is uninteresting to pupils, to C that it is out of date, ridicules it to D, and sneers at it with profound gravity to E. These parties hadn't realized it before, but, now that the subject is mentioned, that is exactly what they think and have always thought about it. Whereupon the buzz begins, and, in a longer or shorter period, proportioned to the activity of the buzzers, "public sentiment" demands a change of text-books, and the officials in authority are coaxed or threatened accordingly.

An officer who will yield to such pressure, without satisfying himself that the benefits of the proposed change will be far greater than the aggregate cost, and, especially, without considering the probable motives of the manufacturers of such public sentiment, is unworthy of any position of trust. There isn't enough difference in the practical worth of text-books to arouse public sentiment one way or the other; and when a given district begins to bubble it is safe to

infer that some person, who has a personal advantage to gain, is supplying the fuel. The amount of capital, brain and energy invested in the great publishing establishments, and the sharp rivalry between these powerful forms will usually account for proposed changes. With them it is a mere matter of business. Their agents, like any other drummers, are employed to sell their goods; and if a market does not exist, to create a market,—which they do, and in so doing only act as do other salesmen. But parents have some rights in the case, one of which is the right to notify their school servants that these changes have got to stop, and that if they can't head off the publishers other officers will be duly elected who can. St. Louis is having a war on this ground, and we hope it will become general.

Patents.

There is a good deal of feeling among editors in regard to the use of "patent outsides," or "in'ards," as the case may be, by the publishers of weekly papers. On the one hand it is claimed that work is sent abroad which might be done by compositors at the place of publication; and, on the other, that if a publisher can furnish his readers with a greater amount and better variety of matter, at one-half the cost to himself, he is under no obligation to throw away one or two thousand dollars a year for a mere sentiment which is entertained by the craft rather than by paying subscribers.

Whatever may be the real merits in the case, it is quite certain that the question is one for the personal decision of the publisher. He runs a paper as a legitimate means of earning a living. If his town is large enough to support a daily, and his patronage sufficient to authorize his employment of a working force that will set all his matter, then he will not use a "patent" simply because, first, it wouldn't pay, and, second, he doesn't want to. And if these reasons are satisfactory to him and his customers, they certainly ought to be to his fellow editors.

But all towns are not real cities, nor all weeklies simply another make-up of matter first set for a daily; and, most unfortunately, all subscription and advertising lists will not pay a publisher enough to enable him to set all the matter in his office. His total receipts may be one-half, one-fourth or one-eighth as much as those of the first-named weeklies; and, therefore, his expenses neither ought nor can be as great. Their work may justify the employment of three men, while his only requires that of one man; and upon precisely the business principle which they follow in dispensing with a patent, he is justified in using one.

As an outsider we have always been puz-

zled to know just what caused the feeling among editors against the co-operative sheet, because it strikes us as being purely a matter of business for the decision of the party who has to foot the bills—the proprietor. The feeling upon the part of compositors is easily understood, and yet as a rule they would rather work in large offices where every facility is furnished and steady employment given, than in country villages. If compositors were a fixture in any town, it would be somewhat different, but migration is as natural to them as to birds.

As Kansas papers develop a larger business, as owners acquire greater capital, and communities demand more job work, the tendency will be for publishers to dispense with "outsides," because the office work will enable them to maintain a larger force. But in the youth of communities, and when a publisher has his fortune yet to make, there is evident sense in his practice of any economy that so little affects the subscriber and so much affects his own purse as does the use of a patent.

What we started to say, however, was this: In some cases the users of patents allow too great a contrast between the press-work done at home and that done abroad,—a thing which care would remedy. Both sides should be as near alike as may be. And another thing was that, in supplying exchanges, it would save expense to the sender and save time to the reader of the exchange, if only the home side were mailed.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 6, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending October 5th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Inches of Rainfall.
	Max.	Min.	Mean.		
Saturday.....	29	88°	67°	79° .75	28.69
Sunday.....	30	90	58	83 .25	28.63
Monday.....	1	70	56	65	28.73
Tuesday.....	2	80	47	72	28.62
Wednesday.....	3	52	27	47 .75	28.77
Thursday.....	4	56	30	44 .75	28.95
Friday.....	5	65	39	54 .25	28.95

Average temperature for the week, 63° .82.
Range of temperature for the week, 63°.
Rainfall for the week, 2.90 inches.

Nearly three inches of rain fell on Wednesday.

Prof. Shelton wants a man to work by the month on the College farm.

Prof. Kedzie's mother returned to her home in Michigan last Wednesday.

President Anderson and family went to Junction City yesterday evening, and will remain over Sunday.

A number of people who are here attending the Fair have improved the opportunity to visit the College.

The first monthly examinations were held at the College last week, and the general result was very satisfactory to all.

Mrs. Wilson, of Solomon City, mother of Amos and Miss Nena Wilson, is paying her children a short visit this week.

Albert Wisner has returned from the Black Hills, and gives a glowing account of the great quantities of gold (?) to be found in that country.

A "serious" accident happened in front of the gate at Prof. Gale's last Wednesday night. For further particulars address N. M. W., post-office box 68, Manhattan, Kansas.

George Failyer is teaching school in Chautauqua county. We hope he will instruct his pupils how to spell the everlasting name that some one has fastened upon that unfortunate county.

Manhattan is full of strangers this week. Nearly every town along the Kansas Pacific Railroad, from Topeka to Brookville, is represented. They all know that Riley county always gets up a first-class Fair.

There will be a young men's temperance meeting at the Presbyterian Church in Manhattan, to-morrow evening. Judson Pillsbury, William Ulrich, C. D. Greeley, and A. A. Stewart are announced as speakers.

R. E. Lofinck returned to Manhattan this week. For the last eight months he has been setting type in the *Ledger* office, Nevada, Mo. Mr. Lofinck was once a student in the Printing Department of the College, but only remained one term.

We were glad to shake the hand of L. B. Rogers again on last Monday. He was on his way to St. Louis and stopped off here a day to see his many friends. L. B. will graduate this year at the St. Louis Law School, and in a short time thereafter the careful observer, as he rides in a stage through one of our western towns, will see posted on the door of a 6x12 one story building the following: "L. B. Rogers, Attorney at Law. Careful attention paid to perfecting land titles and trying divorce cases." (The above is a joke!) L. B. is a rising young man and we wish him success.

We cannot give a full account of the Fair this week. On account of the storm on Wednesday, the exercises were continued one day longer, and therefore do not close until this evening. In spite of the inclement weather, the Fair is all that could be looked for, and greatly exceeds anything that has been attempted heretofore. Probably there were never as many people on the ground before as on Thursday and Friday. All the various departments are well filled. Nearly all the stalls for stock and pens for hogs are occupied, and Floral Hall presents a fine appearance. The exercises for to-day are especially attractive, and a multitude of people will be there to witness Prof. Atchison's balloon ascension and the free for all race. Next week we will give a more extended report of the proceedings.

The Webster debate Saturday evening on the question, "Resolved, That a man can maintain a better state of health by following the laws of his being than by consulting a physician," went off with unusual interest. The speakers on the affirmative argued that without following the laws of nature health could not be maintained, citing many instances to prove their statements; while the speakers on the negative held that it was necessary to employ a physician in order to follow the laws of nature. After a very spirited discussion, the question was decided in favor of the negative. So hereafter we will employ a physician

and not trust to our own knowledge of the laws of nature. Extemporaneous speaking followed, in which several visitors joined, making it quite interesting. Mr. Cox read an essay, and, the gentlemen who were appointed for declamations and select reading being absent, the Society passed to selection of question, resulting in the selection of the following: "Resolved, That the pen is mightier than the sword." Come all and look out for a big time.
REPORTER.

In another column will be found an advertisement of the Kansas State Agricultural College. This institution has made commendable progress under the able management of President John A. Anderson, and all those who wish to obtain a practical education can get it there at very moderate expenses.—*Wyandotte Gazette*.

The advertisement of the Kansas State Agricultural College will be found in our columns, and we desire to call attention to the same. Under charge of President J. A. Anderson, one of the best educators in the State, this institution is making its influence felt for practical good, and we recommend it to those seeking a thorough education.—*Burlington Patriot*.

In another column will be found the advertisement of the State Agricultural College at Manhattan. Its work is eminently practical and thorough; it prepares the young for the duties and responsibilities of active, every-day life, and affords every facility for educating in the higher branches. For further information call on or address Jno. A. Anderson, President, Manhattan, Kansas.—*Wamego Tribune*.

We desire to call particular attention to the announcement of the Agricultural College of Manhattan. This is one of the most important seats of learning in the State, as your children receive here not only a theoretical, but practical education. This institution under the management of President John A. Anderson is rapidly growing in popular favor, and is an honor to and the pride of the State.—*Atchison Patriot*.

The Manhattan Agricultural College has an advertisement in our columns this week, to which we call attention. This institution is rapidly taking rank as the foremost College in the State. Its able corps of teachers are vigilant and active, and the rapid progress which has been made under their management is the best proof of the future prosperity of the school. We advise our farmers who have sons to educate to correspond with President Anderson.—*Great Bend Tribune*.

For affording to the youths of Kansas a practical education, one that can be put to use anywhere and every day in the week, and applied in the affairs of every-day life, the Industrial School at Manhattan offers superior advantages. In this school each pupil is required to choose some trade, and in that trade he receives special training by a competent instructor, while he also pursues a theoretical course. Thus the hands and the brains are being educated at the same time.—*Neosho County Record*.

We take pleasure in directing the attention of our readers to the advertisement of the State Agricultural College at Manhattan, to be found in another column. This old and well-established educational institution is among the best in the United States. It has a full corps of competent teachers under the very able management of President John A. Anderson, than whom there is not a more able or earnest educator in the State. The fall term commenced August 23d, and closes December 20th, 1877. Tuition free.—*Jewell County Diamond*.

The attention of our readers is directed this week to the advertisement of the Kansas State Agricultural College. This first-class institution is located at Manhattan, and is known throughout the United States for its extraordinary facilities of educating those who patronize it. We are well acquainted with several parties, both male and female, who are attending this College, and they seem determined to remain there until they have completed their education. We heartily recommend the State Agricultural College to those who wish to take a course at school.—*Howard City Courant*.

We call the attention of our readers to the advertisement of the State Agricultural College in this issue. This is one of the great institutions of the State, and should receive more encouragement from the State government. Here may be obtained a thorough and PRACTICAL education—a knowledge of the every-day duties of life in its many phases—at a minimum expenditure of money; a knowledge that will be called into play in every business relation of life. We hope the high pressure reform principles of the average Kansas legislator will not lead him to throttle this, the poor man's college, but that he may help to build it up and enable it to grow to its full stature.—*Russell County Record*.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 6, 1877.

Opinions of the Press.

A superior institution of learning.—*Minneapolis Sentinel*.

One of the best institutions in the West.—*Lincoln Center Register*.

An institution that every Kansas farmer should feel proud of.—*Farmer's Advocate*.

One of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News*.

Under the superintendence of able instructors, and offering great advantages.—*Osage City Press*.

Combines the practical with the theoretical in a most satisfactory manner.—*Garnett Plaindealer*.

Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette*.

Every friend of education will wish the institution continued and increased success.—*Concordia Empire*.

They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Expositor*.

An honor to the State, and will be the means of unlimited good to the rising generation.—*Elk County Ledger*.

The President is a live man, and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun*.

It is the best educational institution in the West, eminently prosperous and deservedly popular with the masses.—*Wellington Press*.

One of the best educational institutions in the West, and should be sustained and kept in a flourishing condition.—*Harvey County News*.

Under the management of Jno. A. Anderson, it has become a valuable educational adjunct to the school system of our State.—*Iola Register*.

Farmers and other citizens who expect to send their young men or women from home to school, should address the President.—*Troy Bulletin*.

Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade*.

Is a credit to any State. Its facilities and course are sufficient for furnishing an education equal to any of the eastern States.—*Cherry Vale Leader*.

The people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald*.

An old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education.—*Council Grove Democrat*.

This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse*.

This is the only school in the State which teaches practical education. All branches of education are taught by the most experienced teachers.—*Lawrence Standard*.

There ought to be one thousand students attending the present term of this College, and our county should be receiving some benefit from this excellent institution.—*Ellsworth Reporter*.

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union*.

Has attained a degree of perfectiveness in all its various branches that is not only creditable to the management, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal*.

The equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere.—*Washington Republican*.

If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose.—*Wyandotte Herald*.

This is the only school in the State which teaches practical education—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*North Topeka Times*.

Is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin*.

Its work is eminently practical and remarkably thorough. It prepares the young for the duties

and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study.—*Chetopa Advance*.

It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader*.

This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade*.

This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph*.

Will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald*.

Stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. If its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State.—*Burlington Independent*.

While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The State is safe in offering its best material to the hand of training and instruction there.—*Valley Falls New Era*.

There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months at the Agricultural College. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal*.

Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations.—*Blue Rapids Times*.

During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgewick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not as fully appreciated by our citizens as it should be.—*Wichita Beacon*.

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College, at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post*.

This institution is now first-class in every respect. Its chief end and aim is to afford to the student every facility for acquiring a practical education,—an education that shall be of use ever afterwards in fighting the great battle of life. This true plan of educating the workers seems to be succeeding finely on its own intrinsic merits, and the Kansas Agricultural College should be appreciated and patronized by an enlightened, progressive people.—*Junction Tribune*.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill by an experienced operator.

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

KANSAS STATE AGRICULTURAL COLLEGE.

Board of Regents.

M. J. SALTER, Chairman, Thayer, Neosho Co.
N. A. ADAMS, Sec'y, Manhattan, Riley Co.
J. LAWRENCE, Beloit, Mitchell Co.
B. L. KINGSBURY, Burlington, Coffey Co.
J. R. HALLOWELL, Columbus, Cherokee Co.
S. M. WOOD, Elmdale, Chase Co.
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E. B. PURCELL, Treas. L. R. ELLIOTT, Land Agent.
E. GALE, Loan Commissioner.
Manhattan, Kansas.

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J. A. ANDERSON, President, Prof. Political Economy.
M. L. WARD, Prof. Mathematics and English.
WM. K. KEDZIE, Prof. Chemistry and Physics.
E. M. SHELTON, Prof. Prac. Agric., Sup't Farm.
E. GALE, Prof. Botany and Horticulture.
J. E. PLATT, Prof. Elem'y English, Mathematics.
JNO. D. WALTERS, Teacher Industrial Drawing.
D. J. BREWER, Lecturer on Practical Law.
A. TODD, Sup't Mechanical Department.
A. A. STEWART, Sup't Printing Department.
W. C. STEWART, Sup't Telegraph Department.
MRS. M. E. CRIPPS, Sup't Sewing Department.
MISS CARRIE STEELE, Teacher Instrumental Music.

THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes; rather than to make him a critic of fancy English or a professor of abstract Mathematics.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term closed May 23d, 1877. Fall Term opens Aug. 23, and closes Dec. 20, 1877.

For further information, apply to

JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

Vol. III.

MANHATTAN, KANSAS, SATURDAY, OCTOBER 13, 1877.

No. 26.

THE INDUSTRIALIST.

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INDUSTRIAL EDUCATION.

Not the least of the things of which Kansas has a right to be proud is its magnificent educational system. At the start a wise and vigorous policy was adopted for the education of its youth; and ever since, whether in war or peace, poverty or plenty, the State has steadily developed and carefully fostered its various educational agencies. In addition to its munificent endowment of the public schools, it has provided higher institutions for three distinct kinds of instruction, namely, normal schools for the special training of public school teachers; a university for the education of those proposing to enter the professions of law, medicine or theology; and an agricultural college for the practical education of those who will engage in any of the "industrial professions or pursuits," as distinguished from the "learned professions." The relative demand for the three forms of education is indicated by the proportion in which the citizens of Kansas follow these vocations, as shown by the last United States census. Of every one hundred persons engaged in a vocation by which money is gained, the ratios were as follows:

Normal education:	
Teachers.....	1.13— 1.13
Professional education:	
Ministers.....	0.43
Lawyers.....	0.55
Doctors.....	0.73— 1.71
Industrial education:	
In agriculture.....	59.13
In manufacturing and mechanical	14.63
In personal service.....	13.89
In trade and transportation.....	9.51—97.16
	100.00

AGRICULTURAL COLLEGE.

Recognizing the need for an education which should especially prepare the rising generations for an intelligent and successful practice of those vocations which are followed by ninety-seven out of each hundred of its citizens, the first institution endowed and put in operation by the State was its Agricultural College, so named because of the fact that agriculture is, both numerically and actually, the chief of these vocations. The title, "Agricultural" College, is apt to mislead those who are not familiar with the above fact, and also with the further fact that the acts of both Congress and of Kansas provide for an "industrial," as distinguished from a "professional" education. And every semi-occasionally some exceedingly brilliant genius will triumphantly announce his discovery of a mare's nest by shooting off the original conundrum, "Why, Mr. Speaker, is telegraphy, or printing, or dress-making taught in our Agricultural College?" The answer to which is that woman is entitled to such an industrial education as will enable her to earn a living, and, accordingly, that these trades are taught for her benefit, in accordance with the design of Congress.

ENDOWMENT.

The endowment received from the United States Government consisted of 81,601 acres of choice land, all of which had been sold at date of last report, except 31,461 acres now on the market. The proceeds from the sale of lands are invested in school bonds, and the securities in hand amounted to \$238,101.28 by last report. The annual income from this endowment is about \$20,000, out of which all expenses of instruction are paid. The only aid received from the State is for the erection of buildings, in accordance with the conditions of the congressional grant. This is the only one of the State's institutions which is not dependent upon the tax-payer for its maintenance.

LOCATION.

It is situated one mile from Manhattan, Riley county, one hundred and twenty miles west of the Missouri River, in the heart of the great central valley which runs through the finest agricultural State in America. The Kansas Pacific Railway, with its connecting lines, gives speedy communication with every quarter, and, in case of emergency, a day's ride will take the student to his home in any county having railroad facilities.

COURSE OF STUDY.

The course of study is shaped with direct reference to giving an industrial as distinct from a professional education. It makes the pupil intelligent and expert in the use of the English language; in the use of numbers as employed by the farmer, book-keeper and engineer; and in the use of lines as employed by the carpenter, painter and architect. Words, figures and lines are tools which all men use. It then gives thorough instruction and laboratorial or field drill in the following sciences as essentially useful to an intelligent and successful farmer: Physiology, Practical Agriculture, Natural Philosophy, Botany, Entomology, Practical Horticulture, Landscape Gardening, Inorganic Chemistry, Organic and Analytical Chemistry, Surveying, Geology, Mineralogy, Zoology, Meteorology, Agricultural Chemistry, Political Economy, Practical Law and Logic. It has an equally practical and effective course for the education of woman as a woman, instead of as a man, and as a worker instead of as a butterfly. Then, it has a well-stocked farm and nursery, and well-equipped shops, for giving boys practice in farm and nursery work, and in wood and iron work, and for giving girls drill in dress-making, printing, telegraphy, carving, engraving and music.

Gov. Seymour.

Valuable Remarks of Ex-Gov. Seymour, of N. Y., at the Lewis County, N. Y., Fair.

Gov. Seymour said: I congratulate the farmers of Lewis county upon the success which has attended their labors this year. I congratulate you for another reason. For the last ten years some men, by concocting various schemes, have attempted to live in opposition to God's own laws, which provide that all shall do their share of labor and toil, forgetting that such is the result of God's command; and for a time many were tempted with longings to possess that which they had not earned by labor. But time and truth ultimately lay all things bare. After all, it is shown how futile all such schemes and experiments are, and we find ourselves brought back to appreciation of the first great principles of political economy, and we are more firmly impressed with the fact that the safety of the country rests upon the success of the honest labors of the holders of the plow.

My friend who preceded me has told you of the majesty of this great country, and pointed out to you its many advantages over other lands. He might have told you also how we have won our progress and gained our great numbers, wealth and prosperity. We think better of our country than of all others because we should do so. This comes from no narrow or selfish feeling, for we gladly welcome men of all countries to enjoy with us the fruits of industry to be found upon our fertile plains. When he felt the superiority of our country, he probably felt as I did when in conversation with a distinguished Englishman, a peer of the realm, who had occupied high positions, and he inquired: "Don't you think you made a mistake when you separated from Great Britain?" I saw he was serious and respectful, but I could not help replying: "Well, on the whole, I think we are sorry we let you go." [Laughter and applause.]

You may be surprised at this answer, but in the history of the world there has been no such natural increase in population as ours—one million every year, over three thousand every day, and more than one hundred every hour. Nor is this all. We are waging a war on Europe as other countries are doing, but in a different way. Ours is a peaceful struggle, but we are taking year after year over three hundred thousand prisoners to give us new life, new blood, and new strength. No other people on the globe have taken advantage of the aid of machinery in all branches of labor as we have. All our people are ingenious and expert. As Mr. Conkling well said, one of the greatest questions to be solved is, can we send across the broad Atlantic and put down in the docks of European ports the products of our soil as cheaply as they can be put there by other countries near by. In coming years we will make still greater advances; we have done much by the use of machinery, and we have done well in agricultural pursuits. When I talk to a foreigner of our superiority, I tell him to go to the sales-rooms at Utica, Little Falls, or Watertown, and see how the buying and selling of butter, cheese and other products are conducted, based upon the rates of gold in Europe as marked upon the blackboard. Do you ever think of the great value of agriculture in this country, as compared with that of other countries? Go to England and consider that Great Britain is forced to consume all the products of her soil in feeding her own people. In England they bring crops from one country, beef from a second, and other things from a third. Here the beef we eat has made greater journeys than many of us ever hope to make before it reaches us; our flour comes from a great distance. This great country is outstripping all others in the world in its produce.

While in Chicago I discovered that an immense business has grown from preparing calves' tongues and pigs' feet for European markets. They are better able to do that in the West than we are, on account of the abundance of their supply. In expressing my surprise at this to a banker, he said, "Why, sir, I can tell you something more

strange than that. One of my customers produced large drafts upon a certain quarter, and when I asked him how that happened, he said, 'That is for the blood I sell.' The blood of Chicago is exported for agricultural purposes."

All this shows that we are having a vast deal more of agricultural pursuits than others, so our farmers will be obliged to make themselves the most intelligent farmers in the world. You are better acquainted with the secrets of agriculture, and regarding the enemies with which farmers have to contend, than many others. If I ask the farmers of Oneida what their greatest enemies are, they will say "insect life," or "the plague of the potato bug;" others will say the "locust," which is another name for the grasshopper. Every man here knows of the operations of the wire-worms and grubs. What surprises me is that we know so little of the habits and life of our very worst enemies. One form of insect life would eventually destroy human life if not held in abeyance by another grade of insects. How many farmers can say intelligently: "This insect is my friend, this is my enemy." How many can tell of the laws of the grub or the locust? I have made a point for several years past of going to Albany to get appropriations for two classes of men who are most poorly paid—our botanists and our entomologists. Some farmers are surprised at this, and inquire, "What is the use of 'bugology'?" and "What do we want of dried leaves?"

They give us knowledge of our enemies, so that we may contend with them successfully. When I ask Oneida farmers, "From what do the wire-worms come?" they cannot answer me, but they say they are great pests, etc. Suppose your neighbors should trespass upon your lands, how long would it be before you would seek a lawyer, and find the law on the subject of trespass, and direct the attorney to commence suit which may last the whole of your lives? No man ever had a neighbor who trespassed as much as the thousands of insect enemies of which I speak. How few say they will take the law on them, although these pests are governed by fixed natural laws. To the farmers of Lewis county I will say, in addition to mechanical skill of improved implements, you should seek for broader knowledge and culture, and more perfect acquaintance with the things which pertain to your daily life. If true to yourselves, you will seek to place your position on higher grounds than has been occupied yet. The world is full of life, and it is a matter of universal interest that teaches us that there is no such thing as death, no matter how many changes are undergone.

Gov. Seymour concluded his remarks by extolling the merits of the men who made their living from the tilling of the soil; by warning young men of the country of their errors in believing that city life has more attractions and promises of success than can be found at home, and urging them to devote as much time as possible to increasing their store of knowledge, so as to benefit themselves and their fellow-men.

American Fruit in Europe.

The Pall Mall Gazette remarks that the foreign demand for American fruits is now so great that Europe and Australia will take nearly all the fruits, fresh and dried,—dried peaches excepted,—which the United States can land in their markets in good condition. England prefers fresh fruit, and since last October has taken 396,000 barrels of apples from the United States, beginning with the latter part of October at the rate of 8,000 barrels a week, increasing in four weeks to 17,000 barrels. The average in December was 20,000 barrels weekly, and one week the number ran up to 28,585. There were Baldwins, Greenings, Russets, and Newton Pippins. It is estimated that England will take an average of from 12,000 to 15,000 barrels a week for the entire season of nine months. The working classes of Germany and the working men and miners of Australia are chief customers for American dried fruit abroad, but the poor people of England and Russia buy to a limited extent. As long as dried apples can be exported

from New York at five or even at seven cents a pound, the working men of Europe and Australia will buy all that can be spared. The business of exporting fruit is one that has chiefly built up since 1865. In the eleven months ending July 1, the fruit exported amounted in value to \$2,831,000.

Important Virtue of Tomato Leaves.

A statement comes from South America that a singular property of tomato leaves had been discovered by a fruit grower. Having cut down some tomato vines, he used them as a mulch around his peach trees. He soon discovered that the curculio, which was destroying his fruit, had abandoned the trees surrounded by the tomato vines. Following up this accidental discovery, he found the free use of tomato vines proved a perfect protection, not only against the curculio, but against other noxious insects. He found, also, by steeping in water some fresh leaves of the tomato, and sprinkling the infusion upon the plants, the innumerable insects which covered them were driven away.

Some gardeners have tried the above remedy, some by accident and others by intention, and their success was remarkable. One gentleman had all his apple trees ravaged by the curculio until last year, when he secured a splendid crop. He knows of no cause for his exemption from the curculio except the tomato plants that were grown for the first time among his trees.

Our Territorial Acquisitions.

Since the year 1800 the United States have acquired, by conquest or purchase, 2,686,070 square miles of territory, as follows: In 1803, the Louisiana purchase, from France. It embraced 1,171,931 square miles, and included the State of Kansas. Napoleon sold this territory for \$11,250,000, besides \$3,750,000 debts due the United States, which our Government assumed, so that the total amount paid was \$15,000,000. In 1819, the Government purchased Florida, embracing 59,286 square miles, from Spain, paying \$6,500,000 for it. Texas, embracing 376,163 square miles, was wrested from Mexico at the cost of a war. In 1848 territory embracing 455,773 square miles, and including California, was purchased from Mexico at a cost of \$15,000,000. In 1853, the Government purchased another strip of Mexico, embracing 45,535 square miles, at the cost of \$10,000,000. In 1870 Alaska was purchased from Russia. It embraces 577,390 square miles, and cost \$7,200,000. The total paid for these acquisitions was \$54,700,000 cash, and the cost of one war.—*Atchison Champion*.

DANIEL WEBSTER is credited with having said: "If I had as many sons as old Priam, I would have them all learn a trade, so they would have something to fall back on in case they failed in speculation." A Philadelphia paper moralizes thus sensibly thereon: "The number of young men and girls who are brought up to no useful trade or calling, is on the increase. The effect of this is seen in political life, where thousands of men are begging, as at present in Washington, for 'position,' with a vague idea that untrained powers and ignorance can find shelter in some cosy nook where they may at least draw their pay. Being practically of no earthly use to themselves or any one else, they only hope to find some place where they can continue to exist without benefiting any one. A destitute young man, without a trade, and who is not qualified by practice to become a tramp, and the chances are that he will become one, or fare even worse by becoming a criminal.—*Exchange*."

THE Blue Rapids Times says: "The 'prairie schooners' cover our lines of travel somewhat as they did in 1870 and 1871. We are having the advance guard of a grand immigration wave, which will continue to wave all next season."

KANSAS is the most substantially prosperous State in the Union. There is more wealth in Kansas to-day, in proportion to population, than in any other State, east, west, north or south.—*Atchison Champion*.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 13, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

Ah! Ha!

The INDUSTRIALIST is two and one-half years old to-day, and has grown accordingly,—in fact, more than “accordingly.” Its old suit was too short in the legs, too low in the neck, too tight under the arms, and wouldn’t button comfortably around the waist after dinner. This is its new suit,—longer, wider, finer, and, if the court knows itself, not to be sneezed at in appearance.

We used to be a little, three-column paper furnishing 26,656 ems of matter. That was a great while ago, may be a hundred years ago, for anything our memory testifies to the contrary, though by the almanac it was only last week.

Anyhow, here we are with four columns furnishing 48,834 ems of matter, which is an increase of eighty-three per cent; and if that isn’t a good percentage of growth, what is? While, as to being “little” any more, the biggest, strongest, ugliest man in the State is on duty in this office day and night to chaw up and sell for hash the very first individual who comes around and speaks of us as a “little” paper. We can stand “small,” because we aren’t so very big now; but any gentleman meditating suicide can save himself great trouble, and all the expenses of burial, by coming into this office with “little” on the outside of his jaw.

THE tent is pitched, the band crashing, and this enlarged show can be seen at the old price of seventy-five cents a year. Walk in, gentlemen, walk in! The greatest—seventy-five—

THERE is something very humiliating to a well-organized conscience and constitution in having to confess to the “fever ’n’ ager,” and in chattering like an ice cream freezer; but there has been a good deal of that sort of humiliation floating through the best-regulated communities.

THE heavy rainfall during the summer, and the luxuriant growth of vegetation, furnished the best possible conditions for an unprecedented amount of sickness in the State. As a rule it is not serious, chiefly chills; but it is disagreeable all the same. The exchanges from all quarters report it, but, now that frost has come, will probably have less to say about it, as there will be less of it.

LAST week the western abutment and approach of the splendid iron bridge at Atchison went into the river to take a bath, and forgot to return. In six days a temporary track was in place and trains crossing as usual, which certainly is quick work. With its present crops on hand, Kansas cannot afford to have any of its railway outlets interrupted, and especially one so important as that at Atchison.

HIS colleagues were sorry to lose Gov. Salter from the Board of Regents, though heartily rejoicing in his good fortune, which led him to resign. He was always on hand, diligent, straightforward and thoroughly in earnest in his efforts to give Kansas the best college for the practical education of the masses that the country contains. He has done the State good service, and deserves credit accordingly. Those who fancy that a Regent has nothing particular to bother him, and less to do, are most egregiously mistaken.

Gov. ANTHONY has appointed Maj. T. C. Henry, of Abilene, Dickinson county, as Regent, vice Gov. Salter, resigned. Major

Henry is more extensively engaged in farming than any other man in the State. His wheat fields have been more talked about at home, and written about by farmers from abroad, than any other one thing, and have done much toward attracting immigration and stimulating men to turn unproductive into productive land. His occupation, business habits, locality and personal vim separately and collectively render the appointment every way “fit to be made.”

TO OUR notion better letters have not been written from Europe than those that the *Commonwealth* is now publishing from Prentis. If his name were Bayard Taylor, or even that of the ponderous old, loose-handled mallet y’clept Russell, every body would be talking of the grace of his style, the raciness of the humor, the vividness of the pictures, and the originality of his views. Whether “a rose will smell as sweet by any other name” or not, the name has a good deal to do with the disposition of people to smell the rose. If he lives long enough, Prentis won’t need to swap names with either of the above parties.

Press Changes.

Sedgwick county: The *Wichita Herald* is a new paper, published by Robbins & Craddock, editors and proprietors, at Wichita.

Crawford county: The *Cherokee Banner* is a new paper, owned and edited by H. H. Webb, formerly of the *Mining Echo*, published weekly at Cherokee.

Cherokee county: The *Columbus Vidette*, Hoffman & Metcalf, editors and proprietors, has just started at Columbus.

Greenwood county: The *Times* has just been established by Bennett & Trask, at Madison.

Morris county: The *Democrat* and the *Republican* have consolidated, and will hereafter appear as the *Republican-Democrat*, Moriarty & Dunn, editors and proprietors, Council Grove.

Book-keeping for Farmers.

THE publication of Felter’s Book-keeping is timely. Throughout the whole country there is a growing opinion that there should be a radical change in the course of studies pursued in the common schools. There is a strong protest against the common school being considered a mere segment of the circle which is completed by the university. It is demanded that the common school itself shall complete a circle, and that this circle shall include within its orbit the prime essentials of an industrial education.

A knowledge of the elements of book-keeping is indispensable to success in business; hence, book-keeping should form an arc of the circle of the common school course. Kansas teachers should not be slow to introduce this first Kansas school book into their schools. It should take the place of the higher arithmetic; indeed, it would be well to make this the chief textbook in arithmetic. Probably five-sixths of the men in this State, who are engaged in farming, spent all of their school-days in the district school; book-keeping was not taught in these schools, and hence very few of them have learned to keep a systematic record of their business transactions. Farmers generally rely upon the merchants and mechanics with whom they deal to keep their accounts. But if farmers should keep books, as men in other business do, farming itself would soon be considered a business and not a mere occupation. Farmers’ sons, to whom the books and forms of business are attractive, would find them at home and in connection with farming.

If farmers generally kept books, farming would be relieved of that condition of

indefiniteness and uncertainty which now so commonly exists. The summing up, at the end of every month, of the hours of actual labor performed by the men and teams upon the farm during the month, would be salutary in its lessons. It would promote frugality. The cost of things desired would oftener be counted before they were purchased. It would prevent running into debt. None but the reckless take delight in recording their money obligations.

The keeping of accounts would promote system in farming. Above all, the keeping of accounts would have a great educational influence upon the farmer and his household. The children could easily be trained to make records in the day-book. When there were several in the family, the work could be done by them in turn, each one taking charge of the books for a week or a month at a time. In this way the children would apply what they learn at school. The girls, too, would gain some idea of business. As an educational influence, it would not be confined to the family; neighbors would compare their records, and thus learn of each other. Reliable data would be obtained upon which future agricultural operations could be based. These are only a few of the benefits which farmers would reap from keeping accounts.—*Prof. Ward.*

Kansas Public Schools.

WITHOUT in the least limiting its sovereign right to growl, and without setting up any precedent which shall in the remotest degree hamper the full exercise of this right, Kansas also has a right to be royally proud of its magnificent resources and of many splendid deeds which have already been performed. Some day, say fifty years hence, when it has gotten snugly settled, and has attended to a half million of things, each of which now clamors for instant notice, the State may stop long enough to enjoy the realization of its wonderful wealth and to pat itself on the back for the good deeds found in its record.

It will see then, though it doesn’t particularly care about such matters now, that, under all the circumstances, it deserves especial credit for having done some very remarkable things. The fact is that the State was pre-empted by the rifle rather than the plow. Its birth was the occasion of a civil war, and, with the audacity of young America, it rushed pell-mell into that terrible conflict before the average youngster has fairly gotten out of his trundle-bed. After winning martial honors obtained by no other State, it came back to its prairies; and, in poverty and pluck, despite drouth, ’hoppers and howling idiots, began a drill in the field which has already won many first prizes for fruit over the heads of all the States, which enabled it to win the brightest and most important victory obtained by any State at the Centennial, and which, before twenty years, will place its wheat, fruits and beef at the head of both the American and the European market. But long before it dared to entertain its present hopes, before it had won the victories of either the sword or the plow, in fact before it had any developed resources, or a recognized existence, it laid a broad foundation for the noblest educational system that has ever been projected and executed by any State, in any age, under similar circumstances. And of that deed Kansas has a royal right to be vigorously proud.

One of the first acts of the Legislature, in accordance with the congressional requirement, provided that every sixteenth and thirty-sixth section should be set apart as an endowment of the public schools. These sections contain about three millions of acres, a body of land considerably larger than the States of Rhode Island and

Delaware put together, and as large as the entire State of Connecticut. With respect to fertility and capability of cultivation, the school lands of Kansas will furnish more acres of better tillable land than can be found in Connecticut. By the last report of the Superintendent of Public Instruction, it appears that less than one-sixth of these lands had been sold, 595,325 acres, at an average of four dollars per acre. The paid-up principal, invested in securities held by the State Treasurer, or ready for investment, was \$1,254,721.76. The amount of unpaid installments, bearing ten per cent interest, was \$1,116,762.66. So that the total principal already derived from the endowment is \$2,371,484.42. The interest of this principal, and the levy of the one mill State tax, yielded last year \$333,462.37, which was expended on the public schools in addition to the revenue raised by each district. When all the lands are sold, the principal of the endowment will probably amount to ten millions of dollars. The total amount paid out last year by the district treasurers for school purposes was \$1,379,231.41. So much for the results of the original policy.

As respects the future, the question is simply one of arithmetic. In 1860 our population was 107,202, and in 1875 it was 531,156. If, in the first fifteen years, a State, at the start poor in everything except the best land, climate and people on the continent, devises and develops its educational agencies as wisely and magnificently as Kansas has already done, what will this development be in the next fifteen years, at the close of which we will have over two millions of population and will be the most prosperous State in the Union? It was admitted to the Union in January, 1861. That was a long while ago, away back in the distance and mist of our antiquity. At that time there were 12 counties reporting, 217 organized school districts, and 2,310 children in school. In the following year there were 28 counties, 534 districts, 8,595 children in school, taught by 319 teachers who received \$14,009.67 and occupied school-houses valued at \$10,432.50. That was in 1862, only fifteen years ago. There are now 70 counties reporting, 4,658 districts, 147,224 children in school, taught by 5,576 teachers, who receive \$743,578.08 and use 3,881 well-equipped school-houses worth \$4,600,259.00. If it had time to stop and think about it, Kansas has a royal right to be vigorously proud of its educational record and deeds.

THE Manhattan INDUSTRIALIST prints a list of 185 daily, weekly and monthly periodicals, now published regularly in Kansas. Shawnee county has the largest number of publications. Clay county (considering its population and wealth) has the fewest. It has only one weekly newspaper.—*Champion.*

AS THE colleges are opening, the papers commence anew their criticism of them. One of our exchanges has the following hit: “We have always been told that the most effective and expeditious way of learning all about our mother tongue was to learn all about another man’s mother tongue. If you would learn to speak and write living English, you must learn to speak and write dead Greek. The deader the language you learn the more you will know of the liveliest language now known. If you would acquire the useful art of writing a correct business letter, or an eloquent love letter, put yourself through the Greek Alpha-Beta-Gamma, and the hujus-hujus-hujus of the Latin text-books. If your son wishes to write an effective essay for the social science congress, or a good sermon, or to make a successful stump speech, let him spend about eight-ninths of his time for the four best years of his life in trying to master the orthography of the Choctaws and the syntax of Sanscrit.”

Is there not a good deal of truth in this sarcasm?—*Topeka Commonwealth.*

THE INDUSTRIALIST.

SATURDAY, OCTOBER 13, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:13 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M., and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

Websters did not meet last week. It rained.

Read the advertisement for club rates in another column.

New students are coming in every day. The classes are doing splendid work and getting the worth of their money.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

Reuben E. Lofinck, a graduate of the class of 1875, gave us the pleasure of a call. He spends the winter with Mr. Rollins, on that gentleman's stock farm.

Mr. Albert Griffin, editor of the *Nationalist*, is delivering a series of temperance lectures in the northern part of the State. He is a logical, candid and interesting speaker, and in dead earnest. We wish him success.

The space between our form and the chase is exactly one-third of an inch; and after the foot-sticks and quoins are in there is not more than an acre of room left for locking up. The sheet shows the size of the inside margin.

We congratulate A. A. Stewart, the Superintendent of our Printing Department, for the energetic way in which he has met the difficulties inseparable from an enlargement and re-cast of the paper. It has been a big week's work well done on his part.

Mr. Thomas J. Jenkins, whom some people irreverently call "Tom," started East this week, accompanied by Mrs. T. J., on a visit to friends in Pennsylvania and New York. They both deserve the happiest sort of a time, and both will be gladly welcomed back.

Senator Charles Robinson, of Lawrence, was in attendance upon the Fair, and we greatly regret our inability to meet him. As a practical farmer from the eastern part of the State, it would do him good to see what products Kansas really can raise; and, doubtless, he returned to Douglas stimulated by new hope and a vigorous determination to reform by trying to grow such things down there!

The contractor has struck the last blow on the new barn. The building is finished, and is the best barn in Kansas for the money. The farm teams are at work with scrapers removing the dirt from the lower side of the building and leveling off the barn-yard. We are waiting for our old friend, Senator Gilpatrick, to come up and witness the complacency with which the 2d Duke of Jubilee will take possession of his new quarters.

The Hon. Thos. H. Cavanaugh, which the same is Secretary of State, had a splendid herd of Herefords at the Fair that attracted a great deal of attention and deserved it. To see that young man expatiate on the "points" of his pets, while he gesticulated with one hand and yanked a cow's head up with the other, was almost as interesting as the stock itself. The herd is a valuable addition to the stock of the State, and will amply repay its owner for the investment.

One of the best improvements yet made on the College grounds is a new road to the buildings through the nursery. At a point on the north side of the present road, about three hundred feet west of the east wall, an automatic gate will be placed, and the proposed road will pass in a north-westerly direction to the rocky hill above the vineyard, around the side of which it will turn to a southwesterly direction through the apple orchard, and thence to the road between the Mechanical and College buildings at a point near the blacksmith shop.

It is being constructed under Prof. Gale's direction and by the Horticultural Department, and, if the weather permits, the grading will probably be finished next week. The Mechanical Department is making the gate, and when it is in place the road will be ready for public use. It furnishes a very gentle grade from the valley to the buildings, through a part of the grounds capable of fine ornamentation in the course of time, and will strike the buildings from a different quarter than that from which they are usually seen. When the new College Building is erected, a similar road, running on the south side of the lane, will connect with the nursery road and complete the drive through the grounds, from the east side.

KANSAS ROADS AND WAGONS.

A member of the class in Political Economy presented the following paper for class discussion, which treats of a practical subject in a practical way:

Means of transportation are necessary to the welfare and happiness of an individual, a community, or a nation. Human desires are as innumerable as are the objects created to gratify them. A human being produces say one thing, but desires many more, so he exchanges this article for those made by others. In doing so his products must be transported, that is, must be removed from the place of the producer to that of the consumer. Hence the necessity for the many men and many means employed in transportation. The gardener transports his vegetables to market in a wheel-barrow; the stock-raiser his cattle to a distant city by means of a railroad car; the farmer his grain to market with a team and wagon. This latter mode is extensively employed in transportation, and we will consider then the ways in which it is employed to the best advantage.

The resistance offered to a wagon varies as the character and material of the road. A horse must exert on a new gravel road eight times as much force as is needed if the road be packed. If he exerts one hundred pounds of force, which is the average amount, in pulling on this gravel road, he will haul a load weighing eight hundred pounds. On the best earth roads a horse will haul twenty-five times the force exerted, and he will then haul one and one-fourth tons instead of two-fifths of a ton as before. We see from this that if the farmer improves his road to market he will receive great benefit, for by so doing he is able to take to market in one day very much more than when the road was unimproved. Therefore, the farmer would practice economy if, instead of attaching more teams to his wagons, he works on his road enough to make it as smooth and as level as possible. After the farmer has made these improvements in the road, it is important that it should remain in good condition as long as possible. To accomplish this he will find an advantage in using wagons the wheels of which are set with wide tires, as narrow tires tend to cut up the road and destroy its smoothness, while the wide tire preserves the road in the best condition. This form of tire has much to do also with the draft, as wide tires cause the draft to be greatly decreased on a somewhat soft road. At one time in New York, the farmer who rode in a wagon with tires six inches in width, had the privilege of passing toll-gates without paying.

Transportation costs something, and oftentimes constitutes the greater part of the cost of an article, and in this case the cost comes out of the farmer's pocket.

THE FAIR.

In spite of all the discouraging features, the Riley County Fair was a grand success. It was but a just reward to the untiring zeal and energy displayed from first to last by the managers. Tuesday, the opening day, was entirely given to receiving entries and a general making ready. Wednesday it rained nearly all day, and every one was disappointed and disheartened. Thursday morning, however, dawned bright and clear; it was announced that the Fair would be continued over Saturday, and all prepared for a good time, which was fully enjoyed until Saturday, when the elements again conspired and succeeded in manufacturing one of the most dismal, disagreeable days which the people of Kansas are called upon to experience.

We cannot enter into a detailed description of the stock, the beauties of Floral Hall, the machinery and the races. We only desire to refer in general terms to the various things on exhibition.

In the line of stock, no fair in Kansas could successfully compete with this one. Of cattle there were Herefords, Devons, Galloways, Shorthorns, Jerseys, and grades; of hogs there were a number of Berkshires, Poland-Chinas and Essex, of all ages. Of sheep there were several breeds; and of horses there was a good representation. The following are the principal exhibitors: Hon. Thomas H. Cavanaugh, Short Bros., A. W. Rollins, Wm. P. Higinbotham, Welcome Wells, Jeff Mails, Mr. Winkler, Dr. Perry, and the College.

Messrs. Stingley & Huntress, E. B. Purcell, A. J. Whitford, P. W. Zeigler, and other Manhattan merchants had separate exhibits which were very good, and spoke well for the energy and enterprise which these men possess. Several of these firms offered special premiums which created a lively competition among the farmers and was a judicious way of advertising.

The fruit display in Floral Hall was the most magnificent thing on the grounds. Hon. Welcome Wells took the lead, of course, having on exhibition over sixty varieties of apples and ten kinds of pears. In a conspicuous place above his fruit, hung a branch of an apple-tree, about a foot long, with twenty winter apples growing thereon. There were several other very fine exhibits, among which we noticed those of Joe Kimball, Mr. Beal, Hon. C. B. Lines, and Mr. Cutter, the latter hav-

ing a splendid display of peaches. There were vegetables without end, one man exhibiting twenty-five varieties. And the bread, jellies, canned fruit, etc., were simply remarkable.

One portion of the Hall was given to the fine art display. Here were paintings, photographs, lace work, embroidery, jewelry, and a number of curiosities that could find a place nowhere else. In another section was to be seen the quilt which grandmother made, the carpet which was a wedding present, and many other things that nobody but a woman can understand or describe.

The display in Floral Hall was of a different nature from those of previous years, but was nevertheless more satisfactory, for apples, peaches, pears, squashes, pumpkins, beets, wheat, corn, etc., speak louder for the productiveness of a country and the thrift and industry of its inhabitants, than does an exhibition of the many things, good enough in themselves, which have been brought from "our eastern homes" and entered at every county fair for the last five years.

Considered as a whole, it is little enough to say that, notwithstanding the adverse circumstances recorded above, this was by far the best Fair held in central Kansas this year. The farmers assisted in it, the business men gave it a helping hand, and the managers were indomitable. Riley county has a well-earned reputation for the excellency of her Fairs, and we have no doubt that she will always, as in this case, sustain her good name.

We clip the following items from the *Enterprise* of this week:

The Kansas wagon took the premium.

Albert Griffin and H. P. Dow took the train for Leavenworth Monday morning. They were drawn on the U. S. Grand and Petit Juries.

E. B. Smythe, who is running T. J. Jenkins' farm on Blue Bottom, took the Garden City Plow offered by Stingley & Huntress. Tom is happy over the result, as is Mr. Smythe.

The editor of this paper started to Leavenworth Tuesday, and during his absence Clair Patee will have charge. Any person having old scores to settle had better call during the editor's absence, as M. Ellsworth will act as the pugilistic extemporizer, and will dress them down cheaply, while Irving Todd will act as ready assistant in "planing down" the ruffled ire of the "injured one" with our "italic shooting-stick." A full corps of police will be in attendance. See us apples swim.

At the meeting of the Children's Temperance Alliance, last Sunday, the following officers were elected: Albert Griffin, President; George Platt, Vice-President; Ella Child, Secretary; G. C. Campbell, Treasurer; Dr. Lyman, Musical Director. The next meeting will be held at 4½ o'clock, Sunday, Oct. 14th, at the Methodist Church.

We clip from the *Nationalist* this week as follows: There was a balloon ascension Wednesday afternoon, with performance on a trapeze. It was witnessed by a large crowd.

Mrs. Dr. Kedzie returned to Michigan last week, after a pleasant visit of a few weeks with her son, Prof. W. K. Kedzie, in this city.

Hon. T. H. Cavanaugh, Secretary of State, and Mrs. Cavanaugh, spent a few days last week with their friends, Mr. and Mrs. Geo. C. Wilder.

T. C. Henry, of Abilene, has been appointed Regent of the Agricultural College, vice M. J. Salter, resigned. A better selection could not have been made.

There was more fancy stock at the Fair than at any previous one, showing that this, as it ought, is beginning to attract the attention of Kansas farmers. Judging by the sale of this stock, and the anxiety of farmers to own it, the time will soon come when Kansas farmers need not feel ashamed to compare their herds with those owned by the prosperous men of the rich farming States east of us.

The Grand Division of the Sons of Temperance meets in Manhattan on Wednesday, the 17th. It is hoped that the attendance will be large. Arrangements have been made to largely increase the number of subordinate Divisions the coming year, and it is important that the officers of the Grand Division to be elected shall be men who thoroughly understand the laws and working of the order, and who are able and willing to devote considerable time to it.

J. H. Barnes, Superintendent of the Grange Store, sent three lots of butter to the great St. Louis Exposition. Two lots took the first and second premiums, and it is said that the third lot would have gotten away with the last premium if it had not been injured slightly by a spell of hot weather. The butter that took the first premium was made by Mrs. Alice Hayes, of Cedar Creek, Pottawatomie county, and the second by Mrs. M. A. Coe, who lives southeast of town, across the Kansas. This is quite a feather in the cap of the Grangers of Kansas.

We have received a catalogue of the Kansas State Agricultural College. Here the young idea is not only taught how to shoot, but given a practical education in the different branches of industry.—*LaCrosse Progress*.

This week we present our readers with the advertisement of the Kansas State Agricultural College, which is located at Manhattan. It is one of the best institutions in the State, and offers unprecedented inducements to those of limited means who wish to acquire an education, by allowing them to pay most of their expenses by working in the shops or on the farm.—*Cedar Vale Blade*.

A practical education is what the young man or woman most needs when entering upon the active duties of life,—and to the want of it is attributable the many wrecks that strew the shores of human action. There is always a good situation at hand for the young man or woman who thoroughly understands how to do something that the world wants done. We advise all who are anxious to thoroughly prepare themselves for the earnest duties of the farm, shop or store to attend the Kansas State Agricultural College.—*Osage County Chronicle*.

Seventeen years ago it was our good fortune to

assist in laying the corner stone of an institution of learning on the heights near the city of Manhattan. That small beginning has blossomed out into the great Kansas State Agricultural College with its munificent endowments of lands and money and its ample facilities for a first-class theoretical and practical education. The practical part is the distinctive feature in this institution. Last autumn when at Manhattan we took occasion to visit the College and were delighted to witness the new appliances in this direction—the mechanic's shop, the printing-office, the blooded stock, the farming tools and buildings, in short all the appliances of a well-conducted farm. If this institution does not turn out intelligent and practical farmers, it will not be the fault either of the State, or of the instructors and managers of the College. No charge is made for tuition.—*New Century*.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Bookseller and Stationer.—S. M. Fox dealer in Fine Stationery, Pocket-Books Envelopes, Gold Pens, Blank Books, etc. No. 127 Poyntz Avenue, Manhattan. 19-3m

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Gardening for Profit.—Instruction and drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening, and Kansas Forestry.

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings, Apparatus illustrating the course in Practical Agriculture.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-tf

Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

Club Rates.—The regular price of the *Kansas Farmer*, an eight-page weekly, edited and published by Major J. K. Hudson, Topeka, Kansas, is two dollars per year; and that of the *American Young Folks*, a sixteen-page monthly, same publisher, fifty cents a year. We will send to any address, for one year, the *Farmer*, the *American Young Folks* and the *INDUSTRIALIST* for \$2.75; or the *Farmer* and *INDUSTRIALIST* for \$2.25; or the *American Young Folks* and the *INDUSTRIALIST* for \$1.00. 26-tf

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

Kansas Text-Book, for teachers and students. ELEMENTS OF AGRICULTURAL GEOLOGY, for the Schools of Kansas, by Prof. Wm. K. Kedzie, M. S., of the Kansas State Agricultural College.

"It presents the subject in simple, untechnical language, easily comprehended by the pupils for whom it is intended. It is thoroughly practical in its teachings, and, at the same time, from a scientific point of view, it is rigidly exact."

In two parts: Part First—Elementary Geology; Part Second—Origin and Formation of Soils.

Wholesale price, \$4.80 per dozen; Van Antwerp, Bragg & Co., Cincinnati and New York. Retail price, 45 cents; for sale by S. M. Fox, Manhattan, Kansas. 8-tf

Buildings.

This engraving gives a good idea of the relative situation of the several buildings used by the Agricultural College, and, so far as can be done in the space, a fair notion of the appearance of the buildings. The one on the right is at present known as the

COLLEGE BUILDING, though it is only temporarily used as such. It was built before our day, and was designed as one wing of an extensive barn. It is 42x100 feet, two stories high, and, besides the chapel, contains nine rooms which are used by the literary departments for recitation purposes.

THE NEW BARN is not shown upon the cut, but is situated about five hundred feet northeast of the College building, and is of the same size. It is admirably adapted to its purpose, furnishing complete accommodations for forty head of cattle and the horses needed on the farm. About five hundred feet south of the College building stands the

MECHANICAL BUILDING, which is 38x102 feet and two stories high. The whole of the lower floor is used as a carpenter shop and is filled with benches, saws, lathes, etc. The upper floor furnishes three



Laboratory Building.

Mechanical Building.

Horticultural Building.

College Building.

KANSAS STATE AGRICULTURAL COLLEGE.

rooms for the Department of Instrumental Music, two for the Sewing Department, one for the Telegraph Department, and one for the Printing Department.

Immediately north of the Mechanical building is the BLACKSMITH SHOP, 20x40, containing two forges and the necessary tools for working iron. It is not shown in the cut, and is the only wooden building on the grounds, all the rest being stone.

One hundred feet east of the Mechanical is the HORTICULTURAL BUILDING, 31x80 feet, one story and a high basement. The main floor contains two lecture rooms, with apparatus cases; and the basement, in addition to cellars, furnishes a large working room for class practice.

One hundred and fifty feet south of the Mechanical building stands the

LABORATORY, cross form, 109x109 feet, one story. It contains a lecture room, office, balance room, physical laboratory, two large chemical laboratories, and a kitchen laboratory. The

NEW COLLEGE BUILDING will be situated one hundred feet south of the Laboratory. The Practical Agricultural wing will be completed next summer.

The Press on the Agricultural College.

A superior institution of learning.—*Minneapolis Sentinel.*

One of the best of that kind in the State.—*Jewell County Monitor.*

One of the best institutions in the West.—*Lincoln Center Register.*

An institution that every Kansas farmer should feel proud of.—*Farmers' Advocate.*

Is the place for obtaining a thorough and practical education.—*Winfield Courier.*

It has become a valuable educational adjunct to the school system of our State.—*Iola Register.*

One of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News.*

Under the superintendence of able instructors, and offering great advantages.—*Osage City Press.*

Combines the practical with the theoretical in a most satisfactory manner.—*Garnett Plaindealer.*

One of the best conducted schools in the country. Its students all speak well of it.—*Emporia Ledger.*

Those desiring a practical education cannot do better than to attend the "Agricultural."—*Alma News.*

Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette.*

Every friend of education will wish the institution continued and increased success.—*Concordia Empire.*

They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Expositor.*

An honor to the State, and will be the means of unlimited good to the rising generation.—*Elk County Ledger.*

All those who wish to obtain a practical education can get it there at very moderate expense.—*Wyandotte Gazette.*

The aim of this College is to teach its pupils just what will be useful to them in after life.—*McPherson Independent.*

Several pupils from this city are now in attendance there, and are well pleased with the institution.—*Dodge City Times.*

Has taken a high position, and is entitled to the hearty support of all friends of popular education.—*Osage Mission Journal.*

The President and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun.*

An excellent institution, under the care of an able management, and a desirable place to get an education.—*Augusta Gazette.*

Gives such an education to the farmer, mechanic or woman as will enable them to earn a livelihood.—*Chase County Courant.*

Is making its influence felt for practical good, and we recommend it to those seeking a thorough education.—*Burlington Patriot.*

It is the best educational institution in the West, eminently prosperous and deservedly popular with the masses.—*Wellington Press.*

One of the best educational institutions in the West, and should be sustained and kept in a flourishing condition.—*Harvey County News.*

Farmers and other citizens who expect to send their young men or women from home to school, should address the President.—*Troy Bulletin.*

Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade.*

Is a credit to any State. Its facilities and course are sufficient for furnishing an education equal to any of the eastern States.—*Cherry Vale Leader.*

No better opportunity for youths who are possessed of limited means to obtain the higher branches of a practical education.—*Eldorado Press.*

The College is building up an excellent reputation, and should be well supported, especially by those living in this part of the State.—*Abilene Chronicle.*

It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader.*

The people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald.*

An old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education.—*Council Grove Democrat.*

This old and well-established educational institution is among the best in the United States. It has a full corps of competent teachers.—*Jewell County Diamond.*

This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse.*

This is the only school in the State which gives a practical education. All branches of education are taught by the most experienced teachers.—*Lawrence Standard.*

Has taken a place away at the head of State institutions of its class. The leading idea of the conduct of the College is to make practical men and women.—*Wichita Eagle.*

There ought to be one thousand students attending the present term of this College, and our country should be receiving some benefit from this excellent institution.—*Ellsworth Reporter.*

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union.*

This institution is rapidly growing in popular favor, and is an honor to and the pride of the State. Your children receive here not only a theoretical, but practical education.—*Atchison Patriot.*

Has attained a degree of perfectiveness in all its various branches that is not only creditable to the management, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal.*

Its work is eminently practical and thorough; it prepares the young for the duties and responsibilities of active, every-day life, and affords every facility for educating in the higher branches.—*Wamego Tribune.*

Stands at the head of institutions of its kind for giving a thoroughly practical education. Some of the young men and women of Barton county of whom we know would do well to attend.—*Great Bend Democrat.*

Parents who wish to give their children a good agricultural or mechanical education could not do better than to send them to the Agricultural College, as it is the best institution of the kind in the West.—*Scandia Republic.*

The equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere.—*Washington Republican.*

This institution is one of great merit, and its work of usefulness is hardly exceeded by any other institution in the State. Its course of instruction embraces the every-day practical branches.—*Peabody Gazette.*

If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose.—*Wyandotte Herald.*

This is the only school in the State which teaches practical education,—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*North Topeka Times.*

Is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin.*

Its work is eminently practical and remarkably thorough. It prepares the young for the duties and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study.—*Chetopa Advance.*

While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The State is safe in offering its best material to the hands of training and instruction there.—*Valley Falls New Era.*

This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade.*

This institution is rapidly taking rank as the foremost College in the State. Its able corps of teachers are vigilant and active, and the rapid progress which has been made under their management is the best proof of the future prosperity of the school.—*Great Bend Tribune.*

This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph.*

Will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald.*

Stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. If its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State.—*Burlington Independent.*

There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months at the Agricultural College. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal.*

Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations.—*Blue Rapids Times.*

One of the great institutions of the State, and the poor man's college. Here may be obtained a thorough and PRACTICAL education—a knowledge of the every-day duties of life in its many phases—at a minimum expenditure of money; a knowledge that will be called into play in every business relation of life.—*Russell County Record.*

This first-class institution is known throughout the United States for its extraordinary facilities of educating those who patronize it. We are well acquainted with several parties, both male and female, who are attending this College, and they seem determined to remain there until they have completed their education.—*Howard City Courant.*

During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgwick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not appreciated by our citizens as it should be.—*Wichita Beacon.*

Offers superior advantages for affording to the youths of Kansas a practical education, one that can be put to use anywhere and every day in the week, and applied in the affairs of every-day life. Each pupil is required to choose some trade, and in that trade he receives special training by a competent instructor, while he also pursues a theoretical course. Thus the hands and the brains are being educated at the same time.—*Neosho County Record.*

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post.*

This institution is now first-class in every respect. Its chief end and aim is to afford to the student every facility for acquiring a practical education,—an education that shall be of use ever afterwards in fighting the great battle of life. This true plan of educating the workers seems to be succeeding finely on its own intrinsic merits, and the Kansas Agricultural College should be appreciated and patronized by an enlightened, progressive people.—*Junction Tribune.*

KANSAS STATE AGRICULTURAL COLLEGE.

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B. L. KINGSBURY, Burlington, Coffey Co.
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S. M. WOOD, Elmdale, Chase Co.
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E. M. SHELTON, Prof. Prac. Agricul., Sup't Farm.
E. GALE, Prof. Botany and Horticulture.
J. E. PLATT, Prof. Elementary English, Mathematics.
JNO. D. WALTERS, Teacher Industrial Drawing.
HON. D. J. BREWER, Lecturer on Practical Law.
A. TODD, Sup't Mechanical Department.
A. A. STEWART, Sup't Printing Department.
W. C. STEWART, Sup't Telegraph Department.
MRS. M. E. CRIPPS, Sup't Sewing Department.
MISS CARRIE STEELE, Teacher Instrumental Music.

THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; and in Book-Keeping.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the structure, growth, and value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, and in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc. The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Assayers, and Workers in metals.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Fall Term began August 23d, and will close December 23d, 1877. The Spring Term begins January 3d, and will close May 22d, 1878.

For further information, apply to
JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, OCTOBER 20, 1877.

No. 27.

THE INDUSTRIALIST.

Published every Saturday by the
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OF THE
KANSAS STATE AGRICULTURAL COLLEGE.

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INDUSTRIAL EDUCATION.

Not the least of the things of which Kansas has a right to be proud is its magnificent educational system. At the start a wise and vigorous policy was adopted for the education of its youth; and ever since, whether in war or peace, poverty or plenty, the State has steadily developed and carefully fostered its various educational agencies. In addition to its munificent endowment of the public schools, it has provided higher institutions for three distinct kinds of instruction, namely, normal schools for the special training of public school teachers; a university for the education of those proposing to enter the professions of law, medicine or theology; and an agricultural college for the practical education of those who will engage in any of the "industrial professions or pursuits," as distinguished from the "learned professions." The relative demand for the three forms of education is indicated by the proportion in which the citizens of Kansas follow these vocations, as shown by the last United States census. Of every one hundred persons engaged in a vocation by which money is gained, the ratios were as follows:

Normal education:	
Teachers.....	1.13= 1.13
Professional education:	
Ministers.....	0.43
Lawyers.....	0.55
Doctors.....	0.73= 1.71
Industrial education:	
In agriculture.....	59.13
In manufacturing and mechanical.....	14.63
In personal service.....	13.89
In trade and transportation.....	9.51=97.16
	100.00

AGRICULTURAL COLLEGE.

Recognizing the need for an education which should especially prepare the rising generations for an intelligent and successful practice of those vocations which are followed by ninety-seven out of each hundred of its citizens, the first institution endowed and put in operation by the State was its Agricultural College, so named because of the fact that agriculture is, both numerically and actually, the chief of these vocations. The title, "Agricultural" College, is apt to mislead those who are not familiar with the above fact, and also with the further fact that the acts of both Congress and of Kansas provide for an "industrial," as distinguished from a "professional" education. And every semi-occasionally some exceedingly brilliant genius will triumphantly announce his discovery of a mare's nest by shooting off the original conundrum, "Why, Mr. Speaker, is telegraphy, or printing, or dress-making taught in our Agricultural College?" The answer to which is that woman is entitled to such an industrial education as will enable her to earn a living, and, accordingly, that these trades are taught for her benefit, in accordance with the design of Congress.

ENDOWMENT.

The endowment received from the United States Government consisted of 81,601 acres of choice land, all of which had been sold at date of last report, except 31,461 acres now on the market. The proceeds from the sale of lands are invested in school bonds, and the securities in hand amounted to \$238,101.23 by last report. The annual income from this endowment is about \$20,000, out of which all expenses of instruction are paid. The only aid received from the State is for the erection of buildings, in accordance with the conditions of the congressional grant. This is the only one of the State's institutions which is not dependent upon the tax-payer for its maintenance.

LOCATION.

It is situated one mile from Manhattan, Riley county, one hundred and twenty miles west of the Missouri River, in the heart of the great central valley which runs through the finest agricultural State in America. The Kansas Pacific Railway, with its connecting lines, gives speedy communication with every quarter.

COURSE OF STUDY.

The course of study is shaped with direct reference to giving an industrial as distinct from a professional education. It makes the pupil intelligent and expert in the use of the English language; in the use of numbers as employed by the farmer, book-keeper and engineer; and in the use of lines as employed by the carpenter, painter and architect. Words, figures and lines are tools which all men use. It then gives thorough instruction and laboratorial or field drill in the following sciences as essentially useful to an intelligent and successful farmer: Physiology, Practical Agriculture, Natural Philosophy, Botany, Entomology, Practical Horticulture, Land-escape Gardening, Inorganic Chemistry, Organic and Analytical Chemistry, Surveying, Geology, Mineralogy, Zoology, Meteorology, Agricultural Chemistry, Political Economy, Practical Law and Logic. It has an equally practical and effective course for the education of woman as a woman, instead of as a man, and as a worker instead of as a butterfly. Then, it has a well-stocked farm and nursery, and well-equipped shops, for giving boys practice in farm and nursery work, and in wood and iron work, and for giving girls drill in dress-making, printing, telegraphy, carving, engraving and music.

A Word for the Farm.

We are now in the midst of the autumn days. The summer is over; the earth has yielded her harvests; the golden grain has been reaped and gathered into barns; and farmers are now busy finishing up the work of the season, and making everything "snug and tight" for the approaching winter. As our city folks come back from the country with their fresh experiences of rural life, and better able to compare the two, it is a good time to say a word about the respective advantages of life here and there, about the independence of the farmer as compared with the care and worry and anxiety of mercantile life. We hope our friends in the country will not smile at our simplicity, in talking about what they understand much better than we do.

What we know about farming is not much, but we know a good deal about city life, and from this side are able to make a comparison of the two. Any one who observes the successes and failures of men in this and other large cities, knows only too much of what comes from the general casting off of the vocation of agriculture by the young men of the country. It is a change from a calling reliable for thrift, to one that is uncertain and deceptive in promise. There is an immense difference between an occupation where one is always wanted, is never in the way of others, is at least independent of ruinous competition, and withal has the consciousness that, instead of living on the world, he is feeding the world; and a condition where all these particulars are reversed, and where the whole history of the times promises the hoped-for independence to only about ten of every hundred who enter the strife. Of the remainder, statistics assure us that not more than one-half rise above the condition of employees, the majority of whom find their salaries too limited for the tastes of their families, and in many cases the real necessities of comfortable life. Of others, a few have the good sense to return to country life, and the large residue go—where?

The Gospel ministry aside, the learned professions are over-crowded, and only a small percentage of those who embark in them succeed. The unsuccessful, especially if poor, have a sad time in getting through the world. In mercantile enterprise, which is frequently the longed-for goal of the boy tired of the farm, the case is certainly no better. The percentage of failures in business is enormous, and even the successful merchant is never beyond the vicissitudes inherent in trade. We seldom open a paper without seeing the account of some commercial break-up, and often where it was least of all looked for. But in our agricultural districts you may go through an entire country without finding a man who has fallen from the condition of a proprietor to that of a laborer on the farm, or worse, to that of one going from farm to farm with the inquiry, "Do you want a hand?" Bad habits, or notable incapacity for the common affairs of life, may bring a tiller of the soil down to this, but these causes aside, ordinary industry and care may be expected to keep him in place.

And the farmer is measurably at ease in regard to the uncertainties of health, or the condition of those whom he expects to leave at death. This subject is one frequently upon the minds of the thoughtful. In a recent conversation with a city physician of extensive practice, he related the case of a book-keeper at about middle age, the father of a family, who was a frequent caller for treatment. "I have told him," said the physician, "that his symptoms are of the gravest character, and that he must leave his employment and go out into the open country for recovery. He said that was impossible; that with his utmost economy, his salary as it came from month to month, was paid right out for the living of his family; and he begs me piteously for relief here. I have replied, 'I will do all I can, but I can give you no hope without rest away from the city.' He assured me that such a thing was quite out of the question, and if

the only condition of relief, he has no choice but to toil at the desk until he dies. My heart is heavy for him, and for other cases of the kind constantly coming before me."

But what can be done? This much, at least: We can recite the facts, with their lesson of warning for those in comfortable rural homes whose fancies are becoming charmed overmuch with the idea of city life, and ask them if their fathers are ever driven to such straits. The farmer can at least, when the necessity is laid upon him, command time for indisposition or real sickness, and his family is meantime fed and clothed as usual; and if death comes, his last hours are not embittered by the thought of their being cast out upon the world.

This is not all. The employe is never sure in his place. Principals may fail, the business die out, or room must be made for some new favorite. "Do you regard yourself as established in your position?" was the inquiry made not long since of a salesman of considerable standing in a mercantile house. "No sir; there is not an employe in this city who feels himself established in his place—not one but lives in constant apprehension of his liability to be thrown out." How different is this from the condition of the farmer who can feel himself settled in his place for life! He does not pass his days under the feeling that any day may bring him a "notice to quit;" that his further services are dispensed with.

It is true there are certain industrial employments in this and other cities which are not overstocked with laborers, except in times of general depression, but youth enamored by the distant glint of city domes, do not often strike out for these. What they want is something genteel; something which will not soil their hands or clothing; and above all, something which, according to their inexperienced fancy, is not work. Disappointed in finding this, save as they may be helped into exceptional preferment by influential friends, the great mass are obliged to resort to almost any employment and wages that offer. It is no longer a question of fancy or preference, but of the sternest necessity. Few of them, when they find their mistake, return to their old quiet homes. They are too proud to go back, or have become too disgusted with homely toil to resume it. Some of them may even be found behind the bars of the saloons, and here and there one has, by hook or by crook, picked up the means of setting up a small shop or groggery on his own account. Others—who knows where they are? At least they are effectually hidden away from former acquaintances and better associations. In the great maelstrom where the living lost of the city are, night prowlers of our streets, the dwellers in darkness, or inmates of prisons, there may be found a full average of those who were once the joy and the hope of a happy home which might, in good time, have become their inheritance.

Of all the interests to be advanced by the ennobling of husbandry, surely no other in importance reaches this in its influence upon the public morality and virtue. It is by no slip of the pen that we write it a pure and holy calling. It has nourished men into grand lives, and, as regards outward prosperity, where can one lay his hand to another calling which so certainly rewards pursuit, and this in no narrow sense?—*New York Observer*.

Fruit Crops in England.

It appears, from the reports in the British journals, that the fruit crops in England are quite similar in general productiveness to the same crops in this country. Apples are very light, except in a few localities; plums and pears are a general failure; peaches have done better; small fruits have been abundant. The English are looking for apples from America, and if we had them to spare they would undoubtedly bring a high price. Large supplies of good tomatoes have gone this year from this country to England, and have brought good prices.

THE agricultural fairs in this State this year are more than ordinarily successful. The attendance at all of them is large, and the displays, as a rule, are such as do credit to the communities where they are held. The abundant products of the season have made this part of the fair a great success. —*Lawrence Journal*.

THE Cawker City *Echo* makes this timely suggestion: "Farmers should make fireguards within the next thirty days. No one knows that it will not be his hay, or his barn, which is burned to the ground first, and the grass will soon be dry enough to catch when the least spark falls in it. Use this timely caution, and it may be the saving of much property."

ALEXANDER HAMILTON once said to an intimate friend: "Men give me some credit for genius. All the genius I have is just this—when I have a subject on hand I study it profoundly. Day and night it is before me. I explore it in all its bearings. My mind becomes pervaded with it. Then the effort which I make is what the people call the fruit of genius. It is the fruit of labor and thought."

THE newspaper men of the State have a valuable friend in Hon. Wirt W. Walton, of Topeka, formerly editor of the *Winfield Courier*, and present Assistant State Superintendent of Schools. He is ever ready to post the fraternity about matters at the capital city, and to aid them in various ways. He also attends to his official duties promptly. Wirt is one of the young men that Kansas has a right to be proud of.—*LaCygne Journal*.

Depth to Sow Wheat.

Experiments in sowing wheat at different depths favor, in ordinary soils, one to two inches. Samples of pure seed sown one-half inch in depth came up in eleven days, seven-eighths of the seed germinated; that sown one inch in depth came up in twelve days and all the seed germinating; two inches deep, seven-eighths of it came up in eighteen days; three inches deep, three-fourths of it came up in twelve days; four inches showed a growth of one-half, that came up in twenty-one days; five inches, only one-half grew and came up in twenty-two days; while that planted six inches deep came up in twenty-three days, but only one-third germinated.

Prairie Fires.

It is time to commence preparing to protect fences, stacks, etc., from prairie fires. Don't wait until the grass is entirely dead, but mow a wide strip around whatever needs protection, and as soon as the grass is dry enough, burn it. Many men will save a day's time by failing to do this, and lose hundreds of dollars worth of property when the fire comes down on them "just when I wasn't expecting it,"—and that is the time it always comes. Then don't delay. By immediate action, grass, fences, buildings, stacks and everything else can be saved from the devouring element that annually impoverishes so many, who, when overtaken by disaster, curse their luck when they alone are to blame for lack of foresight.—*Nationalist*.

A FRENCH physician recalls attention to the theory that it is a good plan to cry and groan when one is in serious pain. Most people don't stop to inquire whether it is or not, but just do it. Yet there is a stoicism sometimes practiced by men and women, and even recommended to hurt children, which looks upon weeping when in pain as a sign of weakness. But in reality it is nature's way of relieving the pressure on the nerves produced by suffering. The French physician referred to tells of a man who reduced his pulse from 126 to 60 in a few hours by giving full vent to his emotions. He says that the crying of children should not be too greatly discouraged. If it is systematically suppressed, the result may be St. Vitus dance, epileptic fits, or some other disease of the nervous system.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 20, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

OUR exchanges are getting fairly warmed up on the merits of candidates for county offices. Before long the italic fonts will be peppered through the columns with "Vote for Dusenberry for sheriff," "Remember next Tuesday," etc.

THE Kansas Pacific Railway Company is making a park near its line at North Topeka, and proposes to lay out and beautify three parks at Wamego. The policy is wise as well as beneficial to the community, and the management deserves credit.

Press Changes.

Cowley county: The Winfield *Courier* enlarges to an eight column paper, and uses smaller type than heretofore.

Jefferson county: The *Kansas New Era* changes editors, Levi B. Wilson retiring and A. W. Moore seizing the pencil.

Sumner county: The firm of Abbott & Kelley, heretofore publishers of the *Oxford Independent*, has dissolved and Mr. J. L. Abbott will continue the business.

Phillips county: The *Kirwin Chief* has changed its firm name to McBride Brothers, editors and proprietors, Mr. W. H. McBride having taken an interest in that paper.

Henry M. Stanley.

The late discoveries of Henry M. Stanley are likely to lead to more important results than such explorations usually do. He has given to commerce a navigable river seven hundred miles long, and penetrating the heart of the richest continent on the globe. A short canal or transfer will have to be built around some rapids, and when this is done there is no reason why armed vessels should not open a speedy communication and growing trade with the interior.

One thing is quite certain, though it may not happen for three hundred years to come, namely, that the star of empire will move farther west than America. If it is safe to guess at the designs of the Creator from his preparations, it is safe to fancy that when the American race has slopped over into Africa and turned its luxuriant jungles into farms, that continent, as compared with this, will then present the same unrivaled inducements to level-headed immigrants that Kansas now does when compared with such skim-milk States as Iowa, Illinois and the rest. The name of Henry M. Stanley will resound on the then Fourth of July occasions, and the prophetic soul of Horace Greeley will be kept everlastingly shouting through the columns of the enterprising press of that day: "Go west, young man; go west."

Resumption.

While the various classes and degrees of statesmen are illuminating the world upon the advantages and disasters of resumption, it is quite possible that these gentlemen may wake up some fine morning to discover that the question had settled itself, and that the people were indifferently using specie or greenbacks as suited their convenience. As the matter of resumption really comes under the jurisdiction of the natural laws of trade, rather than those of Congress or conventions, such an event is not impossible; and as the premium on gold has touched so low a point as to be practically no premium at all, except on large amounts, the event is now actually happening all over the country. The price of gold, like the price of flour, pays no possible respect to the resolutions of conventions, and even

treats legislative enactments with a want of respect that is quite reprehensible in a law-abiding country. And it would be just like the contrariness of the beast for it to spoil a great many congressional speeches, and to withdraw an important plank from several platforms, by sinking to par. The great bulk of this year's harvest is yet to be marketed and exported, the manufacturing industries are quickening, the financial outlook is brightening all over the Union, and the European demand must inevitably continue long enough to absorb our surplus. All the chances are that the price of gold will slowly but steadily decline, and it can't sink much lower without "interrupting" the prize fight over resumption.

The Locust.

Prof. C. V. Riley speaks in strong terms of the practical worth of the observations made by the National Commission this season upon the habits of the Rocky Mountain locust. A good part of the dread occasioned by that insect arises from an ignorance of its mode of life. Seeing the damage done by it in some years, we are apt to add to that damage the further injury which would be done should it come a second or third year. If farmers knew in what years it would arrive, they could plant accordingly; and if they knew that in certain other years it would not arrive, this knowledge of itself would measurably disarm the invader. The locust, like everything else, has its laws; and, by proper study and observation, these laws can be discovered. This is precisely what the Commission is working at, and we are glad to know that it is achieving greater success than even its warmest advocates anticipated. No little of this success is fairly due to the ability and enthusiasm of Prof. Riley. He deservedly stands at the head of the entomologists of the United States, and his reputation has long since crossed the oceans. He has not his equal either as an original discoverer or as a ready and ingenious suggester of appliances for the destruction of injurious insects.

There is sometimes a tendency upon the part of the public to demand that an entomologist shall prevent the ravages of insects. It would be quite as reasonable to demand that the signal service should prevent the destruction wrought by gales, or that a telegraph cable should prevent the approach of epidemic cholera. Men don't expect either of these two results, simply because man cannot beat down the Almighty arm that strikes through the tornado and pestilence. Nevertheless, the mariner counts the warnings signaled from every station by old Probabilities as a boon of priceless value, and boards of health stand on the outer edge of harbors to do battle with approaching pestilence, thereby saving thousands of lives, just as the storm service has saved millions of property.

Now, this much may fairly be asked at the hands of the entomologist, after he has been furnished with means for making proper observations; and if he shall be able to determine the habits, the limit of breeding grounds, and the limit of invasion, certainly that science will have done as much for the trans-Missouri States as does the signal service for the commerce of the Lake States. And should it happen that the Commission, of which Prof. Riley was the originator and is the chief, should be able to accomplish still more than this, Kansas ought not to be tardy in recognizing the worth of such service or in awarding just praise. As a State we have a deep interest in this matter, and should spare no effort to ensure the fullest investigation of the habits of the only insect that has ever seriously damaged our crops or affected the tide of immigration.

Industrial Art Education. No. I.

There are persons who may not be able to see the force of reasoning from an æsthetic point of view, but there is a luminous power in figures which reaches the comprehension of every man. Capitalist and laborer can alike understand as simple a statement as this: It is much better for both one and the other that instead of sending to Europe an annual sum of over \$130,000,000, we should keep the money at home. This economy can be practiced by manufacturing within our own borders the articles for which that amount is paid.

I have before me the reports of the Bureau of Statistics of the United States for the past few years, and see that, notwithstanding the favorable balance between the total exports and imports, our imports of those articles in the manufacture of which art enters are in excess to the value of over \$130,000,000 annually. In glancing over the tables, I observe that the list of exports includes a number of articles representing large amounts of money, which are of a rough, coarse character, and with which the art element is but slightly connected. These articles are freight cars, agricultural implements, coarse cotton prints, bulky machinery, sewing machines, etc. While in nearly all of the imported articles, the advantage of knowledge of art is directly and pointedly shown.

For the last few years, the average yearly imports amounted, in round sums, in jewelry, to over one million; in fancy articles, to five millions; in silk manufactures, to twenty-five millions; in lithographs, paintings and statuary, to one million; in watches, to two millions; in manufactures of hair, to one million; in paper articles, to one million; in earth, stone and china ware, to five millions; in buttons, to two millions; in musical instruments, to one million; in books, to two millions; in glass manufactures, to one million; etc. These enormous sums of money are paid Europe because, in the main, she has better taste and more skilled mechanics than we. The laborers of our great cities starve during the winter months, while we send \$130,000,000 to England, Germany and France every year for articles five-sixths of the value of which consists in taste and skill, and only one-sixth in materials. It is certainly not a point to be proud of that while the products of art industry form one-fourth of the grand total of imports, they only form four per cent or less of the grand total of exports.

The manufactures for which a community should especially contend are those in which skilled labor counts for much and raw material for very little. As such manufactures require a good degree of intelligence for their successful prosecution, they yield the largest profits. The demand for the products of skilled and artistic labor, too, is not limited by the number of consumers,—as, for example, the demand for articles of food,—but only by their taste, and by their desire and ability to purchase. Our leading papers of to-day often speak with eagerness of a coming conquest in the market of the world, and are vociferous in the glorification of our energy, backbone, grit and wit. When the youthfulness of national life is considered, we have undoubtedly done very much; but as long as our export consists chiefly of raw materials and rough implements, we should rather glorify the richness of our soil and the fabulous treasures of our mountains.

And not only from the stand-point of political economy should we advocate the manufacture of those articles, but the consideration of the culture, and all of that moral power which comes from education,

require us to instruct the rising generation so that these things shall be made within the United States. Furthermore, it is only the skilled labor of the multitude which will suffice, and only a general industrial education of the multitude which will produce such labor. It is not enough that there be a few men highly qualified for their work; it is not enough that the artist work under the same roof with the artisan; but artist and artisan should be united in the same person. The less the laborer resembles the machine, the better and cheaper will be the products of his labor. It is not, as generally supposed, the pauper labor, but it is the educated labor of Europe which America has to fear.

We have invented much, but adorned little. Our inventive faculty exceeds that of perhaps every other people, but we have not had the advantages of artistic training. We have filled the world with useful labor-saving machinery without adding much to the sum of grace and beauty. The idea that art has any necessary relation to industry rarely enters into the minds of those most interested in the matter. If this condition of things is not changed, we shall go on in our subserviency to Europe. Art is not simply an amusement, something to delight the fancy of the idle and rich, or a pastime for school-girls getting up "water-colored humbug and wax-work bosh," as President Anderson puts it; but art is decidedly practical, and concerns the well-being of the laborer and the poor. Whenever art is applied to the simplest, commonest products of labor, there will come order, intelligence, grace and increased value.

But how can it be developed? The leaders of Prussia found years ago that, should their nation become predominant in the art of war, they must plant the "pickelhaube" on the head of every one of their citizens; they must educate and drill every one of them in military tactics; and they must call on every one to do his duty as a member of a great nation. The result is known. Should it not be just as logical to claim that if our nation is determined to take the lead in the production of articles for the world market, it must give every one of its laborers, mechanics, foremen, superintendents, etc., (and they form the majority of the nation,) an industrial art education?

In universal industrial art education, I see the only remedy for our present subserviency to Europe. I expect fully as much from it as some of our politicians do from their wooden horse, the protective tariff.—*J. D. Walters.*

BOB. INGERSOLL says that cooking is one of the fine arts; that it takes more sense to be a good cook than to be a good lawyer; that he is both; and that the frying of beef-steak should be made a penitentiary offense.

Now is the time to give the fattening hogs all they will eat. Don't wait till the cold weather and autumn storms come, for they will gain but little then. See that they have plenty of pure water, and warm, dry sleeping quarters. Keep them sheltered from storms and cold, if you would get a profit on the food you give them. Supply them with salt, ashes, and charcoal, and you will have but little to fear from the hog cholera.—*Rural World.*

Gov. ANTHONY has appointed T. C. Henry, of Abilene, Regent of the Agricultural College at Manhattan, in place of Lieut. Governor Salter, resigned. The appointment reflects credit upon the excellent judgment of the Governor, and will be a good thing for the College. Mr. Henry is an educated, practical man, and knows what a college ought to be, having "been there" himself. No better appointment could have been made.—*Enterprise Gazette.*

THE INDUSTRIALIST.

SATURDAY, OCTOBER 20, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:18 A. M.
Going West..... 4:42 P. M.

FREIGHT ARRIVES.

Going East..... 11:20 P. M. and 4:31 P. M.
Going West..... 6:30 A. M. and 1:30 P. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

Read the advertisement for club rates in another column.

Prof. C. V. Riley was in Manhattan on Saturday of last week.

The wife of Mr. T. T. Hawkes, the master mechanic in the shop, arrived in Manhattan lately.

President Anderson is in Topeka this week, attending a meeting of the Masonic Grand Chapter and Grand Lodge of the State.

Two editorials and a letter from G. H. Failyer are crowded out this week. They will appear in the next number.

Prof. Kedzie spent two days in Topeka last week, in attendance upon the annual meeting of the Kansas Academy of Science.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

Prof. Platt intended to go to Wabaunsee yesterday to attend the silver wedding of his brother, Mr. Enoch Platt, but was prevented from so doing by the rain.

The ground is thoroughly soaked with water. It has rained every day this week, and the gentle drops still continue to fall as easily and as numerously as on Monday. Drouthy Kansas! Ha, ha!

Among the new varieties of wheat sown experimentally upon the College farm the present season, are Arnold's Gold Drop, Silver Chaff and Golden Straw, the last two sorts having been received from the Department at Washington.

The recent sales of live stock by the Farm Department are as follows: To F. Woodside, McPherson county, one Berkshire boar pig; to W. H. Sutphen, Dickinson county, one Essex sow pig; to Allen Wilson, Clay county, pair of Berkshire pigs; to W. Scofield, Wabaunsee county, one Essex sow pig. The demand for good stock at moderate prices was never better than now; only breeders will do well to remember that the popular taste is more critical now than ten years ago, farmers generally understanding very well what constitutes a good animal.

We were glad to hear from our friend, Marion F. Leasure, a graduate of the class of 1876. He has been sick during the summer, but is well again, and has a profitable engagement for the winter, "thanks to the old College for furnishing me an education of real value." He further says: "I cannot explain to you how strangely I felt when the INDUSTRIALIST informed me that College had begun again, and I knew that I should return to it no more. That was indeed a sad thought. I had become more attached to the Institution than I realized while attending it." He sends his love to all the members of the Faculty and all his old friends. The best of success to you, Leasure. The INDUSTRIALIST would be glad to hear from you often.

In spite of the rain, the Websters held a very pleasant and profitable meeting Saturday evening. Messrs. E. Burr, J. G. Eckman, J. Gist, J. F. McClure, S. N. Peck and R. H. Wright were elected members of the Society. Mr. Eckman and Mr. Gist were initiated.

The question, "Resolved, That the pen is mightier than the sword," was discussed by Messrs. Godfrey, Anderson and Eckman on the affirmative, and Messrs. Salter, Todd and Hickey on the negative. The decision was given in favor of the affirmative.

Extemporaneous speaking followed with much interest. Mr. Wood declaimed and Mr. Mann read a selection. Question for debate at next meeting, "Resolved, That the farmer leads a better and more independent life than the mechanic."

REPORTER.

Alpha Betas met as usual on Friday, Oct. 12th. By a spirited debate it was decided that intemperance is a greater evil than war. Vol. 3, No. 1 of the *Gleaner*, edited by Miss Josie Harper and A. A. Stewart, was then read. This number was gotten up largely by the efforts of the editors, and was fully up to the high standard which the *Gleaner* has always maintained. All appeared to enjoy it hugely, especially when the jokes were not about themselves. Old members are invited to send articles to the *Gleaner* in care of A. A. Stewart. Miss Gracie Parker and A. H. Stiles

were elected to edit the next number, to be read in two weeks.

Under the head of new business, G. L. Platt was granted a withdrawal card, B. B. Smith was initiated, and the name of C. J. Reed proposed. There was an unusual number of visitors present, among whom we noticed Prof. Platt and wife.

S. H. W.

The Grand Division of the Sons of Temperance of Kansas held its annual meeting in Manhattan last Wednesday. Although the weather was unfavorable, a goodly number of representatives was present. No organization in Kansas has grown as much during the past year as has this one. Great credit is due the Past Grand Worthy Patriarch, John A. Allen, and Hon. Albert Griffin for their untiring and self-sacrificing labors in the cause of temperance. There are others, of course, who have worked hard and deserve credit accordingly, but to no two persons is the order so much indebted for the strength and favor which it has gained during the year as to those above named. The order is in a prosperous condition, and if the cause which it champions is as ably advocated and vigorously prosecuted this year as it was last, the Sons of Temperance will be a permanent institution in Kansas. We cannot give a report of the proceedings of the Grand Division, but the following is a list of the officers elected: Grand Worthy Patriarch, Rev. R. Wake, of Manhattan; Grand Worthy Associate, Mrs. Helen M. Barnes, of Cedar Creek, Riley county; Grand Scribe, A. A. Stewart, of Manhattan; Grand Treasurer, John A. Allen, of Manhattan; Grand Chaplain, J. C. Mayos, of Wild Cat, Riley county; Grand Conductor, Preston Gates, of Wakefield; Grand Sentinel, Frank Waring, of Zeandale, Riley county.

USE AND ABUSE OF LABOR.

The following paper was presented for class discussion by a member of the class in Political Economy:

Every animated being labors in his peculiar way. Even the oyster, which seems at the first glance to be the very personification of idleness, has an allotted task to perform; and though his sphere is not very extensive, yet to him it is all the world. We find that to each being, whether high or low in the scale of nature, great or small in size, are given a body and mind exactly adapted to its own manner of labor, which it performs with unerring precision. The doctrine that we must "live to labor and labor to live" applies with as much force to the sportive grasshopper as to man. As we see wider fields of labor, we also see the adaptability proportionally increased. In man we find the widest range of adaptability, and, accordingly, we find him best fitted for labor. His more perfectly developed brain gives him a power of thought much above other creatures. We thus see that labor is a divine edict which it is a sin to avoid. Our physical and mental health can only be preserved by constant exercise of body and mind. By labor alone can we obtain the means of sustenance and those objects for which we have a desire. It is more pleasant than complete idleness, as all can testify. The use of labor, then, is to obtain health, happiness, pleasure, and, with these, contentment: without either of these life would indeed be an aching void. What better or more productive use could we make of anything, or what better results could follow?

The greatest abuse of labor occurs when it is pushed to excess. It then produces results exactly opposite from those of labor in moderation. It becomes a form of intemperance, and should be regarded and treated as such. Another abuse of labor is when it is blindly applied without being properly directed by intelligence and reason. This is the case when simple manual labor is employed which could be rendered many times more productive by the use of proper machinery.

Senator H. P. Dow, of Riley county, was in town last week, and purchased a windmill of Sharrard & Thomas.—*Waterville Telegraph*.

ENTERPRISE ITEMS.

There were more mad women at the baby show during the Fair than it has ever been our lot to see before.

H. W. Williams, of Ashland, got the blue ribbon at the Fair for the largest peach. It was an October seedling, measured 10½ inches in circumference, and weighed 10½ ounces. It was a whopper.

The appointment of T. C. Henry, of Abilene, as Regent of the Agricultural College, could hardly have been improved upon. Mr. Henry understands agriculture himself, and knows what kind of an education is most needed by a farmer.

NATIONALIST ITEMS.

Geo. Wake expects to start for Williamsburg next week, to teach school. He will be gone all winter.

The grain fields in all the country around town never were looking so finely. These late rains are just what was needed.

The new stone school-house is lifting its mighty walls and proclaiming that next year there will be a comfortable place for the children.

The INDUSTRIALIST comes to us this week enlarged and much improved in appearance. It is

the neatest paper in the State, and every farmer in the State ought to take a copy.

Kansas has had more county fairs this fall than ever before, but from none of them have we seen so many flattering notices as ours, which speaks well for Riley county and the officers of the Association.

PRESS NOTICES.

The INDUSTRIALIST, of Manhattan, has our thanks for a complete list of the newspapers of Kansas. The list embraces 183 papers.—*Larned Herald*.

The INDUSTRIALIST, at Manhattan, will please accept the thanks of this office for a list of the Kansas newspapers. We find that on this list there are 183 papers published in this State.—*Florance Herald*.

We are under many obligations to the Manhattan INDUSTRIALIST for a printed list of all the newspapers published in the State. It is a very neat little supplement, and very handy for reference.—*Cowley County Telegram*.

The INDUSTRIALIST, published at the Agricultural College at Manhattan, issues a neat supplement, in which is a list of all the newspapers published in Kansas, with name of the editor. It is very neatly arranged and worthy of preservation.—*Kansas Star*.

In another column of this paper see advertisement of State Agricultural College. This institution, under the management of President Anderson, is becoming deservedly popular, and is entitled to the hearty support of the friends of practical education everywhere.—*Oxford Independent*.

The Manhattan INDUSTRIALIST of September 29 had a list of all the papers published in the State, the frequency of their issue, and the names of their editors and publishers. The INDUSTRIALIST took pains to obtain a correct and full list. It is entitled to praise for accomplishing its object.—*LaCygne Journal*.

If we had forty boys to educate, we would send them all to the INDUSTRIALIST's school at Manhattan. We believe in work and education. At our Agricultural College they combine the two, and John A. Anderson is one of the best managers we ever knew. The dignity of labor and the benefits of knowledge are scientifically combined, and it is just the place for the growth and development of true genuine American citizens. We cannot imagine such a thing as a spoony milkop graduating at Manhattan. It is a thoroughly American institution.—*Thayer Headlight*.

DIRECTIONS TO APPLICANTS.

TERMS OF ADMISSION.

Candidates for admission must be fourteen years of age, and pass a satisfactory examination in reading; arithmetic, through decimal fractions; and English grammar, to syntax. Classes are started at the beginning of each year in Drill in Arithmetic and Drill in English; and the pupil must have the knowledge above indicated, else he will be unable to retain position if admitted.

Pupils will be received at any time during the year, if able to pass an additional examination upon the subjects studied by the classes which they expect to enter. But they will find it greatly to their advantage to be present at the opening of each term, or as soon thereafter as possible.

GRADES.

Both the Literary and Industrial recitations are graded daily upon a scale of 100; and an examination of all classes is made at the close of each month. A student not attaining an average grade of sixty is promptly dropped to a lower class, or excluded from the Institution until able to do so. The work of grading is strict and uniform in all the departments, and this process is rigorously used for sifting out incompetent and indolent pupils; thus more than accomplishing all that is designed to be effected by a "high standard of admission." Hence, the student's continuance in the College wholly depends upon his own action.

The course is based upon the determination to make the labor required in the preparation of one industrial and three literary recitations as much as the average student can perfectly perform, in ten hours a day. We design to give the pupil the worth of the time expended at College; and, in order thereto, he must do a full day's work with brain or hand. Only those students who can maintain a standing of ninety in each study will be allowed to take more than the prescribed number of recitations; and no one will be permitted to have less than one industrial and three literary recitations.

RELIGIOUS.

Unless otherwise directed by parents, students are required to attend chapel at 8:30 A. M. on academic days, and divine service once every Sabbath.

EXPENSES.

There are no charges whatever for enrollment, attendance or instruction in the regular courses; nor are there any "contingent fees" for the repair of buildings, for the use of books or apparatus, for diplomas, or the kindred privileges usually grouped under the term "contingent." Male students are furnished instruction, the use of apparatus, instruments or tools, in both the literary and industrial classes marked out for them, without any charge. And the same is true of female students in the regular classes provided for them. Printing and Telegraphy are industrials primarily provided for the education of female students, and male students taking either of these are charged \$1 per month for use of instruments.

Instrumental music is a fine art or "accomplishment," rather than a mechanical art. We do not

place it among our "industrials" in the same sense, or for the same purpose, that we do those provided for teaching the trades. Accordingly, a fee of \$12 per term, or seventy-five cents per week, is required from female students for tuition and the use of pianos or organs.

The only charge made for material in either the literary or industrial departments is for the chemicals used by students in laboratory practice, which are furnished at wholesale prices, and amount to but a small sum.

Furnishing an absolutely free education is as much as can be reasonably asked; and the Institution neither boards, clothes, nor supplies the student with text-books. Boarding can be obtained in private families at from \$2.75 to \$4 per week. Washing costs from seventy-five cents to one dollar per dozen. Text-books, which can be procured in Manhattan, cost from \$2 to \$5 per term.

No student need expend over \$5 per week; and many of our best pupils are living at \$1.25 per week. Students desiring to "board themselves" can do so at from \$1 to \$2 per week. In a club of four young men, renting a house, the average cost to each for the term was \$1.11 per week.

LABOR.

Manual labor by the students may be for either of two purposes: First, to acquire skill in a given art; second, to earn money. In the first case, the labor is educational; in the second, it should be paid for by the party benefited.

EDUCATIONAL LABOR.—Manual labor in the recitations of the Industrial Departments, like mental labor in those of the Literary Departments, is purely educational and will not be remunerated. While the interest of the student will be held paramount in the direction of this labor, the practice necessary to dexterity will be required.

REMUNERATED LABOR.—When the Institution needs labor on the Farm or elsewhere which is not educational, but simply for its own profit, and which a student is able and willing to perform, it becomes an employer instead of a teacher, and he an employe instead of a scholar. It pays for work, he works for pay. The relation between them is commercial, not educational; and both parties must act upon business principles. Hence, the College furnishes only such employment as is own interests require, and will pay according to the value of the service rendered at from seven to ten cents an hour.

AMOUNT EARNED.

It is impossible to predict how much a given person can earn, since that depends upon what he can do and what work there is to be done. Hence, it is wholly impossible for us to answer the question so often asked: "Do you think I can meet my expenses by work?" Some students make one-half their expenses, some the whole, and exceptional men have made more than expenses. As a rule, a faithful boy skilled in farm work can earn half his expenses on the Farm or in the Nursery. During the year he can ordinarily acquire sufficient skill in the wood or iron shops to enable him to make articles for sale. The whole question is one for his own consideration and decision. We can teach all who come, but cannot absolutely promise anything more. Hitherto we have refrained from holding out strong inducements respecting the amount of labor we might have to offer; but in view of the fact that during each of the last three years we have had more to do than the students could perform, we are inclined to give greater and positive encouragement on this point. Any boy who is in dead earnest, who is familiar with farm operations, and who can raise \$50 to start with, should be able to carry himself through the four years' course. And certainly this places an education within the reach of every determined boy. As yet we are unable to offer similar advantages to girls, not requiring labor in the College departments which they can perform.

TO NEW STUDENTS.

Bring the text-books you have been using. On arrival, first arrange for your boarding. A. A. Stewart, Sup't Printing Department, will furnish information, either by letter or on application, concerning boarding places or rooms for rent. Report to the President at 8:30 A. M., immediately after chapel, for enrollment.

For further information apply to Jno A. Anderson, President, Manhattan, Kansas.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-1f

Wood and Coal Wanted.—Sealed proposals will be received by the undersigned, until October 27th, 1877, for the delivery of wood and coal at the Kansas State Agricultural College. The kind and quality of the article proposed to be furnished must be designated in the proposal. Proposals will be considered for any portion of the amount needed. The right is reserved to reject any or all bids.

N. A. ADAMS,
Secretary Board of Regents.
Manhattan, October 17, 1877. 27-2w

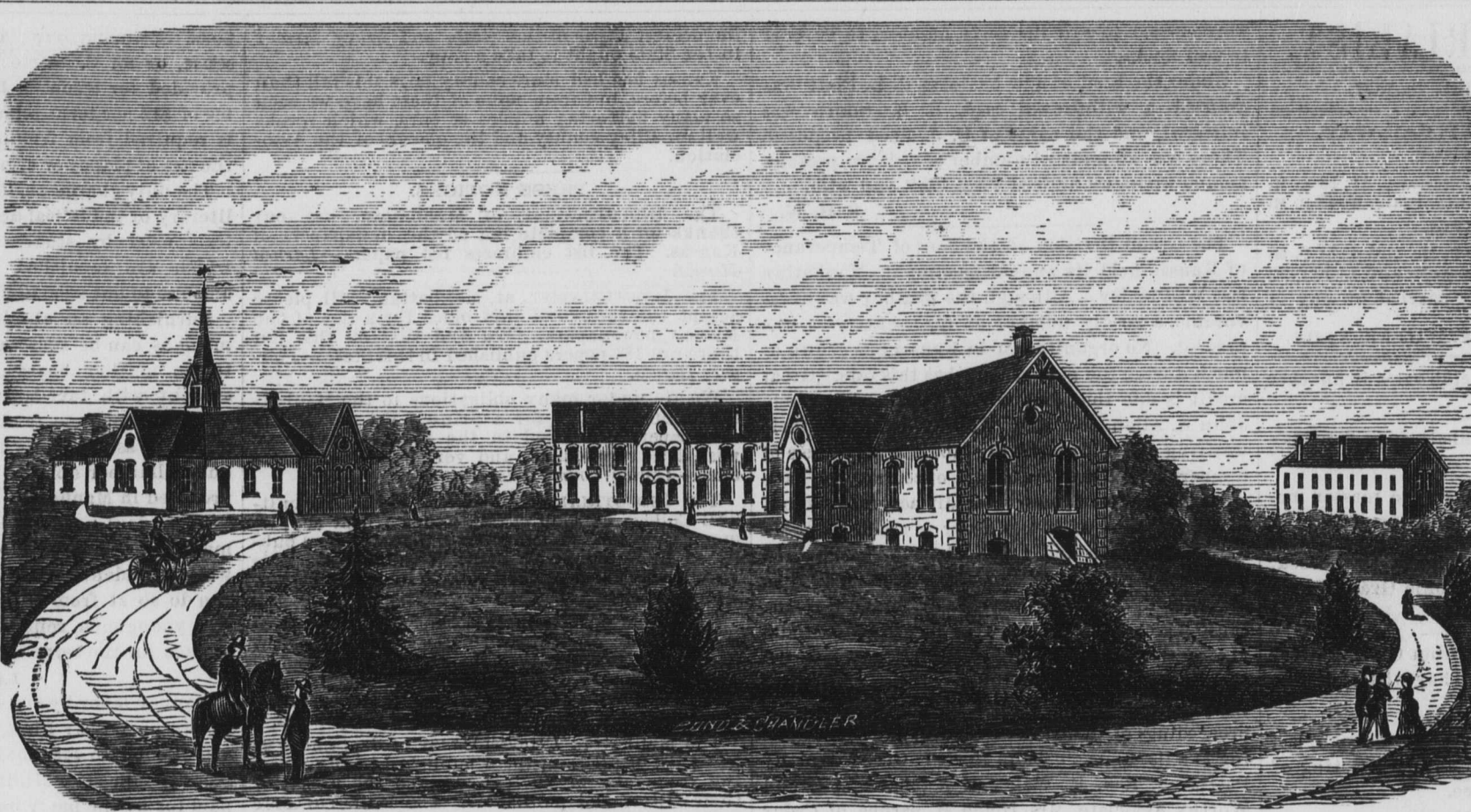
Buildings.

This engraving gives a good idea of the relative situation of the several buildings used by the Agricultural College, and, so far as can be done in the space, a fair notion of the appearance of the buildings. The one on the right is at present known as the

COLLEGE BUILDING, though it is only temporarily used as such. It was built before our day, and was designed as one wing of an extensive barn. It is 42x100 feet, two stories high, and, besides the chapel, contains nine rooms which are used by the literary departments for recitation purposes.

THE NEW BARN is not shown upon the cut, but is situated about five hundred feet northeast of the College building, and is of the same size. It is admirably adapted to its purpose, furnishing complete accommodations for forty head of cattle and the horses needed on the farm. About five hundred feet south of the College building stands the

MECHANICAL BUILDING, which is 38x102 feet and two stories high. The whole of the lower floor is used as a carpenter shop and is filled with benches, saws, lathes, etc. The upper floor furnishes three



Laboratory Building.

Mechanical Building.

Horticultural Building.

College Building.

KANSAS STATE AGRICULTURAL COLLEGE.

rooms for the Department of Instrumental Music, two for the Sewing Department, one for the Telegraph Department, and one for the Printing Department.

Immediately north of the Mechanical building is the

BLACKSMITH SHOP, 20x40, containing two forges and the necessary tools for working iron. It is not shown in the cut, and is the only wooden building on the grounds, all the rest being stone.

One hundred feet east of the Mechanical is the

HORTICULTURAL BUILDING, 31x80 feet, one story and a high basement. The main floor contains two lecture rooms, with apparatus cases; and the basement, in addition to cellars, furnishes a large working room for class practice.

One hundred and fifty feet south of the Mechanical building stands the

LABORATORY, cross form, 109x109 feet, one story. It contains a lecture room, office, balance room, physical laboratory, two large chemical laboratories, and a kitchen laboratory. The

NEW COLLEGE BUILDING will be situated one hundred feet south of the Laboratory. The Practical Agricultural wing will be completed next summer.

The Press on the Agricultural College.

A superior institution of learning.—*Minneapolis Sentinel*.

One of the best of that kind in the State.—*Jewell County Monitor*.

One of the best institutions in the West.—*Lincoln Center Register*.

An institution that every Kansas farmer should feel proud of.—*Farmers' Advocate*.

Is the place for obtaining a thorough and practical education.—*Winfield Courier*.

It has become a valuable educational adjunct to the school system of our State.—*Iola Register*.

One of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News*.

Under the superintendence of able instructors, and offering great advantages.—*Osage City Press*.

Combines the practical with the theoretical in a most satisfactory manner.—*Garnett Plaindealer*.

One of the best conducted schools in the country. Its students all speak well of it.—*Emporia Ledger*.

Those desiring a practical education cannot do better than to attend the "Agricultural."—*Alma News*.

Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette*.

Every friend of education will wish the institution continued and increased success.—*Concordia Empire*.

They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Expositor*.

An honor to the State, and will be the means of unlimited good to the rising generation.—*Elk County Ledger*.

All those who wish to obtain a practical education can get it there at very moderate expense.—*Wyandotte Gazette*.

The aim of this College is to teach its pupils just what will be useful to them in after life.—*McPherson Independent*.

Several pupils from this city are now in attendance there, and are well pleased with the institution.—*Dodge City Times*.

Has taken a high position, and is entitled to the hearty support of all friends of popular education.—*Osage Mission Journal*.

The President and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun*.

An excellent institution, under the care of an able management, and a desirable place to get an education.—*Augusta Gazette*.

Gives such an education to the farmer, mechanic or woman as will enable them to earn a livelihood.—*Chase County Courant*.

Is making its influence felt for practical good, and we recommend it to those seeking a thorough education.—*Burlington Patriot*.

It is the best educational institution in the West, eminently prosperous and deservedly popular with the masses.—*Wellington Press*.

One of the best educational institutions in the West, and should be sustained and kept in a flourishing condition.—*Harvey County News*.

Farmers and other citizens who expect to send their young men or women from home to school, should address the President.—*Troy Bulletin*.

Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade*.

No better opportunity for youths who are possessed of limited means to obtain the higher branches of a practical education.—*Eldorado Press*.

The College is building up an excellent reputation, and should be well supported, especially by those living in this part of the State.—*Abilene Chronicle*.

It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader*.

Is a credit to any State. Its facilities and course are sufficient for furnishing an education equal to any of the eastern States.—*Cherry Vale Leader*.

The people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald*.

An old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education.—*Council Grove Democrat*.

This old and well-established educational institution is among the best in the United States. It has a full corps of competent teachers.—*Jewell County Diamond*.

This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse*.

This is the only school in the State which gives a practical education. All branches of education are taught by the most experienced teachers.—*Lawrence Standard*.

Has taken a place away at the head of State institutions of its class. The leading idea of the conduct of the College is to make practical men and women.—*Wichita Eagle*.

There ought to be one thousand students attending the present term of this College, and our country should be receiving some benefit from this excellent institution.—*Ellsworth Reporter*.

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union*.

This institution is rapidly growing in popular favor, and is an honor to and the pride of the State. Your children receive here not only a theoretical, but practical education.—*Atchison Patriot*.

Has attained a degree of perfectiveness in all its various branches that is not only creditable to the management, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal*.

Its work is eminently practical and thorough; it prepares the young for the duties and responsibilities of active, every-day life, and affords every facility for educating in the higher branches.—*Wamego Tribune*.

Stands at the head of institutions of its kind for giving a thoroughly practical education. Some of the young men and women of Barton county of whom we know would do well to attend.—*Great Bend Democrat*.

Parents who wish to give their children a good agricultural or mechanical education could not do better than to send them to the Agricultural College, as it is the best institution of the kind in the West.—*Scandia Republic*.

The equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere.—*Washington Republican*.

This institution is one of great merit, and its work of usefulness is hardly exceeded by any other institution in the State. Its course of instruction embraces the every-day practical branches.—*Peabody Gazette*.

If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose.—*Wyandotte Herald*.

This is the only school in the State which teaches practical education,—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*North Topeka Times*.

Is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin*.

Its work is eminently practical and remarkably thorough. It prepares the young for the duties and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study.—*Chetopa Advance*.

This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade*.

This institution is rapidly taking rank as the foremost College in the State. Its able corps of teachers are vigilant and active, and the rapid progress which has been made under their management is the best proof of the future prosperity of the school.—*Great Bend Tribune*.

This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph*.

Will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald*.

Stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. If its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State.—*Burlington Independent*.

While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The State is safe in offering its best material to the hand of training and instruction there.—*Valley Falls New Era*.

There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months at the Agricultural College. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal*.

Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations.—*Blue Rapids Times*.

One of the great institutions of the State, and the poor man's college. Here may be obtained a thorough and PRACTICAL education—a knowledge of the every-day duties of life in its many phases—at a minimum expenditure of money; a knowledge that will be called into play in every business relation of life.—*Russell County Record*.

This first-class institution is known throughout the United States for its extraordinary facilities of educating those who patronize it. We are well acquainted with several parties, both male and female, who are attending this College, and they seem determined to remain there until they have completed their education.—*Howard City Courant*.

During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgwick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not appreciated by our citizens as it should be.—*Wichita Beacon*.

Offers superior advantages for affording to the youths of Kansas a practical education, one that can be put to use anywhere and every day in the week, and applied in the affairs of every-day life. Each pupil is required to choose some trade, and in that trade he receives special training by a competent instructor, while he also pursues a theoretical course. Thus the hands and the brains are being educated at the same time.—*Neosho County Record*.

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post*.

KANSAS STATE AGRICULTURAL COLLEGE.

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HON. D. J. BREWER, Lecturer on Practical Law.
A. TODD, Supt Mechanical Department.
A. A. STEWART, Supt Printing Department.
W. C. STEWART, Supt Telegraph Department.
MRS. M. E. CRIPPS, Supt Sewing Department.
MISS CARRIE STEELE, Teacher Instrumental Music.

THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; and in Book-Keeping.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the structure, growth, and value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, and in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc. The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Fall Term began August 23d, and will close December 23d, 1877. The Spring Term begins January 3d, and will close May 22d, 1878.

For further information, apply to
JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, OCTOBER 27, 1877.

No. 28.

THE INDUSTRIALIST.

Published every Saturday by the
PRINTING DEPARTMENT
OF THE
KANSAS STATE AGRICULTURAL COLLEGE.

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INDUSTRIAL EDUCATION.

Not the least of the things of which Kansas has a right to be proud is its magnificent educational system. At the start a wise and vigorous policy was adopted for the education of its youth; and ever since, whether in war or peace, poverty or plenty, the State has steadily developed and carefully fostered its various educational agencies. In addition to its munificent endowment of the public schools, it has provided higher institutions for three distinct kinds of instruction, namely, normal schools for the special training of public school teachers; a university for the education of those proposing to enter the professions of law, medicine or theology; and an agricultural college for the practical education of those who will engage in any of the "industrial professions or pursuits," as distinguished from the "learned professions." The relative demand for the three forms of education is indicated by the proportion in which the citizens of Kansas follow these vocations, as shown by the last United States census. Of every one hundred persons engaged in a vocation by which money is gained, the ratios were as follows:

Normal education:	
Teachers.....	1.13= 1.13
Professional education:	
Ministers.....	0.43
Lawyers.....	0.55
Doctors.....	0.73= 1.71
Industrial education:	
In agriculture.....	59.13
In manufacturing and mechanical.....	14.63
In personal service.....	13.89
In trade and transportation.....	9.51=97.16
	100.00

AGRICULTURAL COLLEGE.

Recognizing the need for an education which should especially prepare the rising generations for an intelligent and successful practice of those vocations which are followed by ninety-seven out of each hundred of its citizens, the first institution endowed and put in operation by the State was its Agricultural College, so named because of the fact that agriculture is, both numerically and actually, the chief of these vocations. The title, "Agricultural" College, is apt to mislead those who are not familiar with the above fact, and also with the further fact that the acts of both Congress and of Kansas provide for an "industrial" as distinguished from a "professional" education. And every semi-occasionally some exceedingly brilliant genius will triumphantly announce his discovery of a mare's nest by shooting off the original conundrum, "Why, Mr. Speaker, is telegraphy, or printing, or dress-making taught in our Agricultural College?" The answer to which is that woman is entitled to such an industrial education as will enable her to earn a living, and, accordingly, that these trades are taught for her benefit, in accordance with the design of Congress.

ENDOWMENT.

The endowment received from the United States Government consisted of 81,601 acres of choice land, all of which had been sold at date of last report, except 31,461 acres now on the market. The proceeds from the sale of lands are invested in school bonds, and the securities in hand amounted to \$238,101.28 by last report. The annual income from this endowment is about \$20,000, out of which all expenses of instruction are paid. The only aid received from the State is for the erection of buildings, in accordance with the conditions of the congressional grant. This is the only one of the State's institutions which is not dependent upon the tax-payer for its maintenance.

LOCATION.

It is situated one mile from Manhattan, Riley county, one hundred and twenty miles west of the Missouri River, in the heart of the great central valley which runs through the finest agricultural State in America. The Kansas Pacific Railway, with its connecting lines, gives speedy communication with every quarter.

COURSE OF STUDY.

The course of study is shaped with direct reference to giving an industrial as distinct from a professional education. It makes the pupil intelligent and expert in the use of the English language; in the use of numbers as employed by the farmer, book-keeper and engineer; and in the use of lines as employed by the carpenter, painter and architect. Words, figures and lines are tools which all men use. It then gives thorough instruction and laboratorial or field drill in the following sciences as essentially useful to an intelligent and successful farmer: Physiology, Practical Agriculture, Natural Philosophy, Botany, Entomology, Practical Horticulture, Landscape Gardening, Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Surveying, Geology, Mineralogy, Zoology, Meteorology, Agricultural Chemistry, Political Economy, Practical Law and Logic. It has an equally practical and effective course for the education of woman as a woman, instead of as a man, and as a worker instead of as a butterfly. Then, it has a well-stocked farm and nursery, and well-equipped shops, for giving boys practice in farm and nursery work, and in wood and iron work, and for giving girls drill in dress-making, printing, telegraphy, carving, engraving and music.

Prentis in Europe.

We make the following extracts from Prentis' last letter in the Topeka *Commonwealth* which appear a great deal better in their original "setting" than out of it:

I do not care to climb, and have always thought Mr. Longfellow's young man, "Excelsior," was a lunatic. The joys of snow-blinded eyes, sore lungs, thumping hearts and blistered legs, to say nothing of an involuntary trapeze performance over the edge of a cliff four thousand feet high, have never impressed me. So I did not "do" Switzerland. And yet I would say for the benefit of constitutionally timid and lazy persons like myself, that a tour through Switzerland is not absolutely dreary and joyless, even without an alpenstock or hob-nailed shoes, or a knapsack, or a cane with the names of all the elevations in Switzerland inscribed on it. One can appreciate the "purple peaks that tear the drifting skies of gold," though looking up from the green valley that rests like a bird's nest amid the glorious mountains that rise, first green, then purple, then gray, then white and shining like the gates of the New Jerusalem. Not a charm of blue lake or white and waving rainbow girt waterfall, or mysterious glacier or winding road, or village set like a jewel in the brow of the mountain need be lost, even though the traveler be the very quietest person in the world and destitute of the least ambition for "doing" anything. Having "unpacked my heart" of these "views" I will begin our travels in another paragraph. * * * * *

It was a long ride over a magnificent road, up—up—all the way for miles, though at times the rise was imperceptible. We passed from the shores of one little lake to those of another; a sort of rosary of lakes. The mountains rose close on the one hand, and just across the lake or the narrow green valley on the other. The base of the mountain is covered with pines or other forest trees, and these are protected by law, as they protect the country below from the avalanches. Nevertheless, you see the long tracks of these descents like a seam on the mountain side at not infrequent intervals. It is astonishing at what angles trees will grow. The pines stand thick where it seems as if the earth must infallibly slip. Above the line of forest extend in many instances miles of pasture land, for where the tree gives up the attempt the humble grass provokes grim nature with a smile. Sometimes the grass grows to the very summit, but generally the sky line is broken by a succession of sharp peaks, giving that saw-like appearance which in our mountains is indicated by the word "sierra." These sharp points are called by the Swiss, "needles," and it is said that they are crumbling and breaking away, and I have an idea that in the good time coming, say in a billion years or such a matter, the face of nature will be calmer and brighter and more peaceful; rain will fall where is the burning desert now; the volcanoes will be extinguished, and in that golden time when earth is what Eden was, and even church choirs have ceased to fight, the rugged outlines of the Alps will have greatly changed, and the "needles" will have lost their points, and the victorious grass will wave in triumph where now is the bare and lightning-splintered rock. This description and prediction applies only to the lower Alps; of Mont Blanc, the Matterhorn, the Jungfrau, and that style of mountain, I have little hope. Immense in surface; traversed by tremendous gorges, the dark shadows of which may be seen miles away, crowned with eternal snow; cold, proud, and looking down on other mountains, they will never be ameliorated, but will ever remain magnificent solitudes, broken only by adventurous Englishmen with a passion for breaking their necks. * * * * *

Two score people were gathered in the church, when the ringing of a bell announced that the organist had taken his place. Outside was hot, toiling, dirty, commonplace, ugly Fribourg. Within was dimness

and coolness and stillness, until the music broke the silence and woke the echoes of the vaulted arches. With the first note the outer world, so drear and hard, seemed far away, and we were in the green valley amid the everlasting mountains. It was sunshine and song for awhile, and we heard near or far, full or faint, the notes of the Alpine horn; then the thunder muttered in the distance; then the pine tops shivered and sighed; then a mysterious wind seemed to sweep through the space above our heads, and there was the sound of falling rain. Anon came the storm in all its fury and the organ crashed and roared till women turned pale, and then, most wonderful of all, one heard above the fury of the storm, voices, like the voices of human beings lost, calling, calling, calling in notes of entreaty and despair. No other instrument made by man have ever I heard that had such a human voice as the great organ at Fribourg. This wonderful performance lasted an hour, and closed with a clangor as of the shutting of silver doors upon music that had come once and would never come again.

Everything had a new light after we left the church, and we were miles away before we ceased to hear in our "mind's ear"—for I suppose the mind has an ear as well as an "eye"—the music of the organ. It was a preparation for the beautiful sight when Lake Lemman shining in the sun burst upon our vision, skirted by the vine-clad slopes. * * * * *

A few hours sufficed for Chamouine and Mont Blanc. I will return to Chamouine when the present village has been justly destroyed by avalanche for extortion, and I will ascend Mont Blanc when it can be done by railway.

These last words may seem to indicate that some feeling of regret followed the brief week I spent in Switzerland, but this is not true. On the contrary it left bright memories, and will brighten, as do apples, when come the colder days of life. Should I live to be very old—which heaven forbid—when the sun above is no longer bright and warm; when the few faces of the dear ones left shall be dim; when I shall forget the things of yesterday, even names that I have repeated a thousand times; even in that last scene, when the poor, old faded curtain is about to fall, I believe that I shall live over again the days of my pilgrimage, young days, bright days, "Swiss Days."

Farmers, Educate Your Sons.

The larger number of our farmers of today make no effort to conceal the fact that as good business men, as model farmers and worthy of imitation by the rising generation, they are not by any means a success. Not a season passes in their experience on the farm but it occurs to them once or more that some very necessary point in their education as agriculturists has been neglected; their inability to deviate with any certainty of success from the old groove in which their fathers before them traveled is felt, and this want of a proper knowledge to accomplish something other than is contained in the old routine is a constant check upon progression.

Now, farmers, you feel that you have lost much in not being properly educated to perform the duties of your profession, and the question here arises, will you allow your sons to grow to manhood deprived of these necessary privileges? Give the boys a chance to show what they are made of. Send them to an agricultural school. We have one right here in our own State. It is yet a young institution and its curriculum perhaps is not just what it should be, but we feel confident that it will improve just in proportion to the encouragement it receives and before long be an institution of learning that we will be proud of. Some of you will say, we are not able to send our boys to a school away from home. Now, there is just where you are mistaken. We have a plan to present which will fill the bill exactly, and you will not feel that it has cost you a cent. Take your boy with you some day to the lot where your swine are

feeding, and say to him, "Son, I have been thinking of making an effort to send you to an agricultural school that you may have a thorough knowledge of farming. I am not able to furnish the money to pay your expenses, but right over there are two nice sows which I will give you; make what you can out of them and I will make up the balance." Take our word for it, in nine cases out of ten the boy will jump at such a chance, and he will take such care of those sows and their pigs that in one year he will have made enough money to pay for a good education at the Agricultural College. It will surprise you to see what care will be taken of the pigs, and John will not feed them from your crib either, but he will take some out-of-the-way corner on the farm and raise enough to do it.

Again we say, give the boys a chance and they will be the comfort and blessing of your old age.—*Spirit of Kansas.*

Don't Sell the Farm.

"Stick to the farm" are words when earnestly spoken that have a double meaning in Kansas. At present the farm may have few attractions for the family that, in many instances, have seen better days. But trees will grow up around a home if the people have any desire to preserve them and make them beautiful by care and cultivation; so will collections gradually stray into the house; and if the "guid wife" has the knack of arrangement, she can make the home, humble though it be, a pleasant and cheerful place. Indefatigable industry will surmount difficulties and smooth down hills of obstacles; on the farm it will cause plants to multiply and groves to flourish, for nature furnishes lavishly of her resources to assist the busy husbandman. In a few years the Kansas prairie farmer's home will resemble a little villa, where now in many places a plain board shanty on an exposed hill greets the vision. This is already being realized in our own country. To those who were familiar with the comfortless board shanty of the homesteader a few years ago, the house, the stabling and above all the nursery of growing trees surrounding them on the home of our former homestead settlers, are evidences of a wonderful change, yet this improvement will be far surpassed in five years of the future.

Then why sell the farm which so much toil and hardship has caused to bud like the rose. Keep it, live under its protecting shelter. You protected it when in its rudeness and squalor it was a by-word—"the dwelling place of a homesteader;"—it will soon have the resources within its bounds to protect you and keep your family in abundance and comfort.—*Council Grove Republican-Democrat.*

Organized Emigration.

That the labor troubles in the East will result in an immense immigration to the Western States is most evident. Meetings are being held in all large cities, societies are being formed, companies are being organized, with the object of bringing people to settle upon and cultivate our unoccupied lands. Kansas will undoubtedly get the largest share, and will thus reap the benefits of the judicious advertising she has had. One colony has just taken 2,900 acres of land in Edwards county. We are glad to note that these colonists all make provision for at least one year's support independent of what they may raise. This is as it should be. Also, they make provision for plenty of implements, teams, seed, etc. With such preparation they can hardly fail to succeed.

In Pennsylvania, Congress will be asked to make an appropriation to aid emigration by furnishing each family with means to support them a year, the amount to be a lien on the property and to be repaid with a small interest. Whatever be the different plans and schemes, one thing is certain—the Western States will be enriched.—*Lawrence Tribune.*

THE wheat crop in one of the districts of the Argentine Republic, has been destroyed through an invasion of locusts.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 27, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

RAIN? Well, yes—some! Good for the wheat? Well, rather—just a few!!

WE are under many obligations for the exceedingly kind notices of the College and its work recently made by the press.

WE were glad to receive a call from Mr. John Coulter, of the *Times*, Leavenworth, who "did" the College under the guidance of Mr. Clair Patee. The *Times* is one of the best dailies in the State, and has a habit of saying what it pleases in a vigorous way.

THE first thing we know Kansas will be too little; the land will all be sold; the wild acres waving with grain; the railroads double-tracked; money at four per cent; newspapers invariably paid for in advance; and nothing left for us except to take in the Indian Territory and New Mexico;—unless this immigration is stopped.

SOME day we hope that Kansans will be saying any number of gustatorily nice things, as their lips are patting the flaky morsels of California salmon bred in the Kansas. And when that day comes, the Hon. D. S. Long, of Ellsworth, who has received one million of salmon eggs from the Pacific, and expects to hatch them in the Smoky, will be lovingly remembered.

GOV. ANTHONY has issued, in pamphlet form, a statement relating to the claims of the State of Kansas for money expended for the United States in maintaining the militia during the war and Indian invasions. It presents the facts and reasons why Congress should reimburse the State, and is designed for use in that body. Besides being admirably adapted to its purpose, it has a charm for the general reader, arising from the historic memories which it awakens, and from the takingness of the style in which it is written.

KIND words are golden, and the INDUSTRIALIST is made rich by the good will and good wishes so strongly expressed by the editorial fraternity. In its way it has tried to advance the true interests of Kansas, as well as of the Institution which it represents. So far from finding its vanity increased by the hearty words of those whose good opinions are rightfully accounted true praise, it is only stimulated thereby to a firmer determination to become more worthy of them. And that is the best evidence it can give of its high appreciation of the judgment of the craft.

ONE of the men of whose pen Kansas has a right to be proud, is Capt. Henry King. His sketches have quite as much individuality, more piquancy, and a finer flavored wit than have Bret Harte's. He is as true to his particular nature as is Mark Twain to his nature; and is as much the product of Kansas life as are Harte and Twain of California life. His best field is that of the magazine, where he cannot fail to win a lasting success. As Web Wilder—another Kansas original, wherever he may happen to be—used to say, Henry King is "one of our things," and Kansas will not voluntarily part with its "undivided interest," to any State, in the present and future reputation of its "contributor to Scribner."

Press Changes.

From its first number to the present one, the INDUSTRIALIST has received such

hearty and uniform kindness at the hands of Kansas papers, that we earnestly desire to do any thing within our power that may be of the slightest benefit or even convenience to the craft. For this reason we shall continue to publish each week such changes in the Kansas press as come to our notice; and will be glad to forward our supplement of Sept. 29th, which contained the full list, and subsequent corrections, to any Kansas publisher.

Lyon county: The *Inter-State*, by the *Inter-State Publishing Company*, Humboldt. Haven't seen it yet,— "X."

Barton county: Mr. J. T. Flint retires from the editorial chair of the *Arkansas Valley Democrat*, Fugate & Smith, publishers, Great Bend.

Cherokee county: J. J. Chatham and G. T. Bruffey have begun the publication of the "Empire City Daily Echo," at Empire City. Chatham is very apt to get up some original sounds, as well as echoes.

Caution to Kansas Tree Planters.

Dwarf Fruit Trees.

Under this head are placed the dwarf apple, peach, pear, plum and cherry. With the single exception of the pear, the whole outfit may be considered and treated by tree planters as worthless, having failed in all the points claimed in their favor,—viz., hardihood, early and profuse productiveness, beauty and excellence of the fruit,—as tested with the standard class.

We make the above statement upon practical knowledge, and from our own experience and extensive observations, and would caution all novices in the fruit growing pursuit to give no heed to the flattering representations of peddlers offering this class of trees. Disappointments will surely follow all such investments. Nice, healthy, standard trees can be obtained at our home nurseries at from eight to twelve cents each, and by a careful selection of varieties fruit can be had earlier and of a much finer quality than from any dwarfs, for which the swindling rates of thirty, forty, fifty and even one dollar are asked by unscrupulous agents and peddlers.

E. GALE, Pres. State Hort. Society.

G. C. BRACKETT, Secretary.

A Conundrum.

SAY, you INDUSTRIALIST man, who is that fellow on horseback, talking to the man with the cane, in the Agricultural College cut?—*Galena Miner*.

That is General Grant, and the gentleman with the cane is President Hayes. Grant is saying, "Hayes, I received a West Point education, which is far more practical than the classical stuff taught in the professional colleges. But when I had to become a tanner in order to make a living, I realized, more fully than men usually do, the necessity of that kind of an education which qualifies a boy to support himself from the start as a successful farmer, mechanic or business man. When less than three per cent of our citizens become lawyers, doctors or ministers, there is no justice whatever in depriving the other ninety-seven of an education adapted to their work. Hence, I am heartily in favor of a 'practical' as distinguished from a 'professional' education. My sympathies are with the masses every time. Now, these Kansas chaps have a more sensible notion about a practical education, and are executing this plan more directly and effectually than any of the other States,—which isn't surprising after the way that State knocked the Centennial persimmon. And my advice is that they fight it out on this line if it takes a dozen summers." Hayes replies: "I fully agree in that opinion, and yonder goes Stanley Matthews, in my buggy, to say so to the INDUSTRIALIST." Grant—"Has Stanley heard from Ohio?"

Vocal Music.

Man was intended for a musical being. The great delicacy and flexibility exhibited in the construction of his vocal organs, in connection with those of the ear, prove this. The vocal chord is capable of such a diversity in the rapidity of its vibrations as to produce a difference in the pitch of the voice of three or four octaves, while the ear is so constructed that when two or more voices are heard at the same time, having a certain mathematical ratio in the rapidity of their vibrations, a pleasing sensation is produced upon the ear which we call harmony. This would never have been the case if the voice had been intended only for the purpose of articulation. The ability to produce musical sounds is a talent given us by our Creator, and one which we are under the same obligations to improve as we are any of our other useful faculties.

Music should be cultivated on account of the pleasure it affords. It is our privilege to avail ourselves of all the means of innocent enjoyment within our reach. Much real, solid pleasure can be taken by uniting our voices with others in song, and this pleasure is increased just in the ratio in which we cultivate our voices and ears to discriminate a pure, perfect tone. For the members of a family, around the home circle, to unite their well-trained voices in a beautiful song, is one of the most agreeable things we can imagine. It adds to their happiness, to their cheerfulness, and prevents discordant elements from entering. Music should then be cultivated as an amusement for the young. It is said that young people will have some kind of amusement, and when the world is so full of amusements of a character to demoralize the young and unfit them for the real duties of life, is it not wise to select such as are void of any pernicious tendency, and pre-occupy the mind with them? Is not a musical association a far better place for a young man than a drinking or gambling saloon?

The study of music should not only be encouraged as an amusement, but also on account of its elevating and refining influence upon the character. There is something in the practice of this art which really lifts one a little higher in the scale of being. Its tendency is to rub off the coarser parts of human nature, to drive away depression of feeling, and to make one more sympathetic and agreeable as a companion. Music should also be learned for the purpose of adding to the interest of every public meeting or social gathering; church service, Sabbath school, temperance meeting, prayer meeting, church social, public lecture,—all are enlivened and the interest in them increased by good music. A man can address an audience with more ease and with greater effect after the stimulus of an animating song. Music is a power to inspire men to nobler feelings and nobler actions; then give us music,—clear, rich, strong, soul-stirring music, that shall aid in making the world purer, nobler and happier.

Last, but not least, music should be cultivated as a medium through which to praise the great Giver of all good. That heart must be ungrateful indeed which has no thanks to render and no praise to offer to Him who gives us unnumbered blessings; but let our gratitude and our praises be wafted on the wings of song to that ear which is ever open. "Let all the people praise the Lord."—*Prof. Platt*.

Swine Husbandry.

SWINE HUSBANDRY. A practical manual for the breeding, rearing and management

of swine, and the prevention and treatment of their diseases. By F. D. Coburn. New York: Orange, Judd & Co.

Few persons who have not given the subject special attention have any conception of the immensity of the interest represented by this book. It was estimated by the Commissioner of Agriculture that the total number of hogs in the United States in 1876 footed up 25,726,800 head, valued at \$175,070,484. Of these the valley of the Mississippi alone contained 18,291,600 head, valued at \$125,007,227. Large as are these numbers, they by no means tell the whole story. To properly estimate the importance of swine husbandry to the nation, we must take into account the important industries contingent upon it, and especially the crops and farm products that could not profitably be grown without the aid of our omnivorous friend—the pig. Thus, how much of the present summer's corn crop would have been planted had there been no possibility of disposing of it in the shape of pork; and, again, how many herds of cattle could be profitably fed in Kansas the coming winter were there no hogs to "follow" these wasteful feeders? These are matters which cannot be estimated in dollars and cents, but that they might properly be placed to the credit of pig raising no one will question.

It is evident that the writer on Swine has a broad field of labor; and that if he is practical, and can forcibly call the attention of the great army of pork producers to the better breeds and better methods that have grown up in late years, he can do a great and lasting good to the whole business of agriculture. We have looked over Coburn's Swine Husbandry with reference to these points, and have not been disappointed. In the outset the author disclaims the idea of writing an "original work," or one containing "the limited experiences of a single individual," the object of the book being to condense in one small volume "the conclusions and ideas of the most practical, successful, observant men who have followed the business in our own time and in our own country." The result of this plan has been to place within reach of every farmer a small book containing the best experiences of such thoroughly successful men as Cottrel, Magie, Milliken, Harris, and a score of others,—a mass of information that could be found in no other half dozen volumes.

A brief glance at the table of contents will give a general idea of the character of the work. The first eighty pages are devoted to "breeds of swine, their characters and worth." Under this head will be found an accurate description of all the better known breeds, their origin, history and relative merits. The author's preferences lean toward the Berkshire, but this idea you get from a direct statement, not from his treatment of the subject. "Raising and fattening swine," embracing such topics as "the sow and her pigs," "cooking food for swine," "relation between the prices of corn and pork," "hog houses and pens," is treated in ninety odd pages. Under this head may be found a resume of the celebrated experimenters, Lawes & Gilbert, of England, and Dr. Miles, of Michigan. The remaining eighty-one pages of the book are devoted to the "diseases of swine, practical information as to their causes, symptoms, prevention and cure."

While not agreeing with some of the theories apparently countenanced (they are never put forward dogmatically) by the work, we are prepared heartily to recommend it to the general farmer, and especially to the western farmer. The book is a timely addition to our agricultural literature.—*Prof. Shelton*.

THE INDUSTRIALIST.

SATURDAY, OCTOBER 27, 1877.

TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:15 A. M.
Going West..... 5:05 P. M.

FREIGHT ARRIVES.

Going East..... 5:05 P. M., and 8:50 A. M.
Going West..... 6:30 A. M., and 8:05 A. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending October 25th, 1877.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Inches of Rainfall.
	Max.	Min.	Mean.			
Friday.....	19	50°	36°	47°	75	28.64
Saturday.....	20	44	27	40	75	28.78
Sunday.....	21	56	29	46		28.88
Monday.....	22	65	37	50	75	28.81
Tuesday.....	23	69	41	57		28.65
Wednesday.....	24	67	50	59		28.62
Thursday.....	25	60	39	56		28.52

Average temperature for the week, 51° 03.

Range of temperature for the week, 40°.

Rainfall for the week, 3.61 inches.

Our edition this week is thirteen hundred.

Read the advertisement for club rates in another column.

Mr. Hawkes is handling the Mechanical Department admirably.

Every line of type in this paper was set by students, as is the case nine times in ten.

The monthly examination came off yesterday, and every body is busy figuring on grades.

We have tumbled over to A. A. Stewart the typographical praise given to the INDUSTRIALIST.

The attention of the Kansas press is called to the article entitled "Caution to Kansas Tree Planters," in another column.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

We have had magnificent rains this week, and the wheat is just rolling over and laughing at itself in an exuberance of delight.

Two communications and a column and a half of editorial matter are crowded out this week, to say nothing of the locals that have been left over.

Grading away the dirt from around the new barn is a big job, but is progressing as rapidly as the weather permits. The mules don't like it, though.

By a strict mathematical calculation, we have clearly demonstrated the fact that this is the right time of year to subscribe for the INDUSTRIALIST. Seventy-five cents.

Prof. Walters has designed a very neat and tasty heading for the INDUSTRIALIST, and if it doesn't cost too much we may get under a brand new head-gear some of these days.

The wetness of the water that has been spreading itself generally of late has put a stop to the work on the nursery road; but it hasn't prevented George Gale from hauling in some cedar cuts for gate posts.

Mrs. Walter C. Stewart left yesterday for a visit to her parents, who reside in Irving, and W. C.'s face will grow longer and sadder till her return. Mrs. Abbie has a great many friends here, and deserves to have them.

At the meeting of the Websters on Saturday evening, October 20th, J. B. Dickson, A. F. Dickson, and J. A. Bell were elected members of the Society and initiated. Mr. Peck, who was elected at the previous meeting, was also initiated.

By motion the debate was postponed one week, and the Society proceeded to the election of officers for the remainder of the College term, with the following result: President, Irving Todd; Vice-President, Bernhard Anderson; Secretary, A. N. Godfrey; Treasurer, L. A. Salter; Corresponding Secretary, Pierce Hickey; Critic, J. H. Harvey; Librarian, J. H. Harvey; Marshal, G. A. Cox. Next came extemporaneous speaking, during which such topics as the "Gulf stream" and the "Southern policy" were freely discussed. After considerable argument on both sides, the gentleman appointed for declamation was fined for neglect of duty, he having failed to give a reasonable excuse. The gentlemen appointed on composition and select reading being absent, these duties were not performed. The name of George H. Storch was proposed for membership. The question selected at the previous meeting will be discussed next week. All are invited to attend.

REPORTER.

We publish the following extracts from a private letter from G. H. Failyer. His letter is dated at Peru, Chautauqua county, near which place he is teaching school:

I have been to the Short Creek lead mines! In my humble opinion, they are peculiarly Kansan; that is, one of the principal ingredients is blow. There is some lead there; but all their blowing has been in vain unless they find ore in paying quantities in ten shafts where they now find it in one. I do not at all doubt that by capital and enterprise they might be developed and stand high as productive mines; but I have no patience with the blow that cries them up as the "poor man's mines." "Poor men" have worked there all summer, spending what little they could raise to pay their board and do their "shooting"—which cost very high,—and now winter is on them and they have not a single cent for all their labor and outlay. But these reflections are not of vital interest, so I will desist. * * * As I look from my window this evening, an ever-varying scene is presented. Before me stretches the lawn-like valley of the Caney, dotted here and there by fields of ripened corn; the emerald carpets spread by the *Triticum vulgare*; the pleasant farm-houses; and, not the least interesting, the lowing cattle, lazily pursuing their homeward way. The view beyond is screened by serpentine bluffs, now abrupt and almost perpendicular, then receding and less precipitous; the sear grass, peering at intervals between the rocks that cap their summits, is all sufficient to finish the picture. But as I am no gifted artist or "linguist," I cannot appreciate the beauties of a landscape nor find words to describe one. The gods did not bestow these rare abilities upon your humble servant.

NATIONALIST ITEMS.

Several gentlemen are going into the stock biz by buying young calves and raising them.

There has never been so many trains, or so long and heavily loaded, pass over the K. P. Railway as within the last month, and business on the road never was more brisk.

The coal trade is increasing every year in Manhattan, and it will not be long before most of our people will use it. It costs very little more than half as much as wood, is easy to store away, and takes but little room.

ENTERPRISE ITEMS.

Trade was lively in the city on Monday, after the week of rain.

Why not shut up a lot of the cattle that are prowling about? Mr. City Marshal, where is the pound?

Prof. John D. Walters has a very interesting article in last week's INDUSTRIALIST, one of a series on "Industrial Art Education."

The carpenters and stone masons all appear to be crowded with work. People are preparing for winter and want all those little holes and leakages stopped.

Almost all our farmers are putting in considerable fall wheat this year, and the copious rains that have fallen the past week have caused it to grow finely.

PRESS NOTICES.

The Manhattan INDUSTRIALIST is enlarged and much improved, and we won't call it "little" any more. — *Valley Falls Era*.

The Manhattan INDUSTRIALIST comes to us considerably enlarged. We are glad to see this as it indicates the success of the enterprise. — *Chase County Leader*.

The INDUSTRIALIST comes to us enlarged to a four-column size. It is spicy, neat, and if it can stand the term, we should say pre-eminently good looking. — *Troy Bulletin*.

The result of educating young men at the Agricultural College, at Manhattan, will be giving the State men who have farming reduced to a profitable science. — *Columbus Vidette*.

Kansas may well feel proud of her institutions—especially her State Agricultural College. This institution teaches practical education—qualifies the student for almost any vocation he may choose. — *Galena Miner*.

When selecting a point at which to attend school, it will be well to consider the advantages of the State Agricultural College, at Manhattan. Their advertisement in this paper enumerates some of the inducements offered. — *Blue Rapids Times*.

See advertisement of the Kansas Agricultural College, in another column. The Agricultural College gives a practical as distinguished from a professional education. It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman, as will enable them to earn a livelihood. — *Yates Center News*.

The sprightly and piquant "Little Breeches" of the Kansas press, the Manhattan INDUSTRIALIST, has got too big for its original attire, and now appears in larger, though not prettier, clothes. The INDUSTRIALIST is now, and always has been, a model of typography, and in editorial ability and interest it has no superior in Kansas. — *Junction City Union*.

The Manhattan INDUSTRIALIST, the College paper, comes out this week enlarged into a sixteen-column paper, looking as bright as a newly minted coin. And it is as good as gold; no other newspaper in the State gives the amount of solid, sensible and beneficial intelligence about Kansas, contained in the INDUSTRIALIST. — *Council Grove Republican-Democrat*.

The INDUSTRIALIST is a weekly paper published at the Agricultural College, at Manhattan, Kansas. It is not only the neatest paper printed in the State, but is most ably edited. And, by the way, Mr. Anderson is doing a good work for Kansas in his management of the College, and deserves well of Kansas people. — *Kansas City Journal of Commerce*, Oct. 20th.

We were through the State Agricultural College grounds not long ago, and were surprised and pleased with the improvement displayed. There is still greater improvement going on in the construction of a new road to the buildings through the nursery, taking in some of the most beautiful points of this large and well-conducted farm. — *C. F. W. Lawrence Journal*.

The INDUSTRIALIST, published at the Agricultural College, at Manhattan, has come to the con-

clusion that its old size and dress was "too short in the legs, too low in the neck, too tight under the arms, and wouldn't button comfortably around the waist after dinner," and comes to us this week enlarged and improved in every respect. It still maintains its old subscription price. — *Olathe Star*.

The INDUSTRIALIST comes to us enlarged. This is a most valuable and interesting little sheet, and we congratulate those interested that it can afford to grow. As an exponent of progress at the State Agricultural College, it is doing admirable work, and as an evidence of what a printing "class" can do it is of first-class validity. The INDUSTRIALIST is always and heartily welcome. — *Concordia Empire*.

The INDUSTRIALIST, a paper printed at the State Agricultural College, has been enlarged, and is very much improved in appearance. All the work, as we are informed, is done by the students of the printing department. The College is winning a deservedly high reputation under President Anderson, who is one of the best men in America for the place he occupies. Success to the INDUSTRIALIST and the College. — *Leavenworth Press*.

The last number of the Manhattan INDUSTRIALIST has a fine engraving representing some of the buildings used by the Agricultural College. In the engraving are seen the Laboratory, Mechanical, Horticultural and College buildings. Under the vigorous and practical administration of Dr. Anderson the Agricultural College is rapidly outgrowing the prejudice that has prevailed against it, and is now recognized as one of our most beneficial and creditable institutions. — *Junction City Union*.

The Manhattan INDUSTRIALIST, the paper printed at the State Agricultural College, has been enlarged. Its typographical appearance is exceedingly neat, and as the work is all done by the students of the printing department, this is the best testimony that could be offered establishing the thoroughness of the instruction afforded in the industrial school. The State Agricultural College is winning a deservedly high reputation. President Anderson is one of the best men in America for the place he occupies, and he is aided by a very efficient corps of assistants. These gentlemen have made the College what it is—a school of industrial arts. — *Champion*.

The INDUSTRIALIST, the paper printed at Manhattan by the professors and students of the Agricultural College, comes to us enlarged. It is not only the neatest printed paper in the State but most ably edited. In this connection we can't forbear stating that the Agricultural College under the charge of Mr. Anderson has become just what it was intended to be, a College for the people. It is an institution that the people of Kansas are proud of, and can rightfully boast that it is, if not the best, among the best of the kind in the United States. It is doing just what Congress intended should be done when the appropriations for such colleges were made. — *Topeka Commonwealth*.

The INDUSTRIALIST is now bigger—a beautiful four-column sheet. We have no idea of being deprived of the privilege of committing suicide just when we feel inclined, nor do we feel niggardly on funeral expenses, so, in order to be safe on both, we have torn the word "little," as applied to the INDUSTRIALIST, out of all our dictionaries. The INDUSTRIALIST is the "coming man" among Kansas newspapers. It is ably gotten up by the students of the State Agricultural College, under the direct supervision of the President, "which the same" is a practical printer and experienced editor. Therefore, lastly, and to conclude, though the INDUSTRIALIST may be a lit—small paper, it has big ways. — *Junction City Tribune*.

The Kansas Agricultural College, at Manhattan, is the place for every boy who can be spared from home. We see the need of good practical farmers every day, and we want more of them. A great many farmers have an idea that they are skilled in the art, but if they were able to stand out and look at themselves, they would feel surprised at the little they know about it. At the College is taught the art and science of farming, and the beauty of it is constantly kept before the pupil. Unless it is a characteristic of the pupil inherited, when he leaves the College to engage in tilling the soil for himself, he will not allow his fences to fall down, and then patch up the gaps; the doors on the barns and stables will not hang by one hinge; the wood pile will not be scattered all over the door-yard; the barn-yard will not be six inches under soft mud and manure every time it rains; cattle and stock will always have a shelter when the storms of winter are upon them; everything about the whole house and barns will give evidence of care and knowledge; and when the two qualities are possessed, the farmer cannot fail of success. — *Topeka Blade*.

DIRECTIONS TO APPLICANTS.

TERMS OF ADMISSION.

Candidates for admission must be fourteen years of age, and pass a satisfactory examination in reading; arithmetic, through decimal fractions; and English grammar, to syntax. Classes are started at the beginning of each year in Drill in Arithmetic and Drill in English; and the pupil must have the knowledge above indicated, else he will be unable to retain position if admitted.

Pupils will be received at any time during the year, if able to pass an additional examination upon the subjects studied by the classes which they expect to enter. But they will find it greatly to their advantage to be present at the opening of each term, or as soon thereafter as possible.

GRADES.

Both the Literary and Industrial recitations are graded daily upon a scale of 100; and an examination of all classes is made at the close of each month. A student not attaining an average grade of sixty is promptly dropped to a lower class, or excluded from the Institution until able to do so. The work of grading is strict and uniform in all the departments, and this process is rigorously used for sifting out incompetent and indolent pupils; thus more than accomplishing all that is designed to be effected by a "high standard of admission." Hence, the student's continuance in the College wholly depends upon his own action.

The course is based upon the determination to make the labor required in the preparation of one industrial and three literary recitations as much as the average student can perfectly perform, in ten hours a day. We design to give the pupil the worth of the time expended at College; and, in order thereto, he must do a full day's work with brain or hand. Only those students who can maintain a standing of ninety in each study will

be allowed to take more than the prescribed number of recitations; and no one will be permitted to have less than one industrial and three literary recitations.

RELIGIOUS.

Unless otherwise directed by parents, students are required to attend chapel at 8:30 A. M. on academic days, and divine service once every Sabbath.

EXPENSES.

There are no charges whatever for enrollment, attendance or instruction in the regular courses; nor are there any "contingent fees" for the repair of buildings, for the use of books or apparatus, for diplomas, or the kindred privileges usually grouped under the term "contingent." Male students are furnished instruction, the use of apparatus, instruments or tools, in both the literary and industrial classes marked out for them, without any charge. And the same is true of female students in the regular classes provided for them. Printing and Telegraphy are industrials primarily provided for the education of female students, and male students taking either of these are charged \$1 per month for use of instruments.

Instrumental music is a fine art or "accomplishment," rather than a mechanical art. We do not place it among our "industrials" in the same sense, or for the same purpose, that we do those provided for teaching the trades. Accordingly, a fee of \$12 per term, or seventy-five cents per week is required from female students for tuition and the use of pianos or organs.

The only charge made for material in either the literary or industrial departments is for the chemicals used by students in laboratory practice, which are furnished at wholesale prices, and amount to but a small sum.

Furnishing an absolutely free education is as much as can be reasonably asked; and the Institution neither boards, clothes, nor supplies the student with text-books. Boarding can be obtained in private families at from \$2.75 to \$4 per week. Washing costs from seventy-five cents to one dollar per dozen. Text-books, which can be procured in Manhattan, cost from \$2 to \$5 per term.

No student need expend over \$5 per week; and many of our best pupils are living at \$1.25 per week. Students desiring to "board themselves" can do so at from \$1 to \$2 per week. In a club of four young men, renting a house, the average cost to each for the term was \$1.11 per week.

LABOR.

Manual labor by the students may be for either of two purposes: First, to acquire skill in a given art; second, to earn money. In the first case, the labor is educational; in the second, it should be paid for by the party benefited.

EDUCATIONAL LABOR.—Manual labor in the recitations of the Industrial Departments, like mental labor in those of the Literary Departments, is purely educational and will not be remunerated. While the interest of the student will be held paramount in the direction of this labor, the practice necessary to dexterity will be required.

REMUNERATED LABOR.—When the Institution needs labor on the Farm or elsewhere which is not educational, but simply for its own profit, and which a student is able and willing to perform, it becomes an employer instead of a teacher, and he an employee instead of a scholar. It pays for work, he works for pay. The relation between them is commercial, not educational; and both parties must act upon business principles. Hence, the College furnishes only such employment as is own interests require, and will pay according to the value of the service rendered at from seven to ten cents an hour.

AMOUNT EARNED.

It is impossible to predict how much a given person can earn, since that depends upon what he can do and what work there is to be done. Hence, it is wholly impossible for us to answer the question so often asked: "Do you think I can meet my expenses by work?" Some students make one-half their expenses, some the whole, and exceptional men have made more than expenses. As a rule, a faithful boy skilled in farm work can earn half his expenses on the Farm or in the Nursery. During the year he can ordinarily acquire sufficient skill in the wood or iron shops to enable him to make articles for sale. The whole question is one for his own consideration and decision. We can teach all who come, but cannot absolutely promise anything more. Hitherto we have refrained from holding out strong inducements respecting the amount of labor we might have to offer; but in view of the fact that during each of the last three years we have had more to do than the students could perform, we are inclined to give greater and positive encouragement on this point. Any boy who is in dead earnest, who is familiar with farm operations, and who can raise \$50 to start with, should be able to carry himself through the four years' course. And certainly this places an education within the reach of every determined boy. As yet we are unable to offer similar advantages to girls, not requiring labor in the College departments which they can perform.

TO NEW STUDENTS.

Bring the text-books you have been using. On arrival, first arrange for your boarding. A. A. Stewart, Sup't Printing Department, will furnish information, either by letter or on application, concerning boarding places or rooms for rent. Report to the President at 8:30 A. M., immediately after chapel, for enrollment.

For further information apply to Jno A. Anderson, President, Manhattan, Kansas.

Farming for Profit.—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-1f

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Buildings.

This engraving gives a good idea of the relative situation of the several buildings used by the Agricultural College, and, so far as can be done in the space, a fair notion of the appearance of the buildings. The one on the right is at present known as the

COLLEGE BUILDING, though it is only temporarily used as such. It was built before our day, and was designed as one wing of an extensive barn. It is 42x100 feet, two stories high, and, besides the chapel, contains nine rooms which are used by the literary departments for recitation purposes.

THE NEW BARN is not shown upon the cut, but is situated about five hundred feet northeast of the College building, and is of the same size. It is admirably adapted to its purpose, furnishing complete accommodations for forty head of cattle and the horses needed on the farm.

About five hundred feet south of the College building stands the

MECHANICAL BUILDING, which is 38x102 feet and two stories high. The whole of the lower floor is used as a carpenter shop and is filled with benches, saws, lathes, etc. The upper floor furnishes three



Laboratory Building.

Mechanical Building.

Horticultural Building.

College Building.

KANSAS STATE AGRICULTURAL COLLEGE.

The Press on the Agricultural College.

A superior institution of learning.—*Minneapolis Sentinel.*

One of the best of that kind in the State.—*Jewell County Monitor.*

One of the best institutions in the West.—*Lincoln Center Register.*

An institution that every Kansas farmer should feel proud of.—*Farmers' Advocate.*

Is the place for obtaining a thorough and practical education.—*Winfield Courier.*

It has become a valuable educational adjunct to the school system of our State.—*Iola Register.*

One of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News.*

Under the superintendence of able instructors, and offering great advantages.—*Osage City Press.*

Combines the practical with the theoretical in a most satisfactory manner.—*Garnett Plaindealer.*

One of the best conducted schools in the country. Its students all speak well of it.—*Emporia Ledger.*

Those desiring a practical education cannot do better than to attend the "Agricultural."—*Alma News.*

Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette.*

Every friend of education will wish the institution continued and increased success.—*Concordia Empire.*

They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Express.*

An honor to the State, and will be the means of unlimited good to the rising generation.—*Elk County Ledger.*

All those who wish to obtain a practical education can get it there at very moderate expense.—*Wyandotte Gazette.*

The aim of this College is to teach its pupils just what will be useful to them in after life.—*McPherson Independent.*

Several pupils from this city are now in attendance there, and are well pleased with the institution.—*Dodge City Times.*

Has taken a high position, and is entitled to the hearty support of all friends of popular education.—*Osage Mission Journal.*

The President and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun.*

An excellent institution, under the care of an able management, and a desirable place to get an education.—*Augusta Gazette.*

Gives such an education to the farmer, mechanic or woman as will enable them to earn a livelihood.—*Chase County Courier.*

Is making its influence felt for practical good, and we recommend it to those seeking a thorough education.—*Burlington Patriot.*

It is the best educational institution in the West, eminently prosperous and deservedly popular with the masses.—*Wellington Press.*

One of the best educational institutions in the West, and should be sustained and kept in a flourishing condition.—*Harvey County News.*

Farmers and other citizens who expect to send their young men or women from home to school, should address the President.—*Troy Bulletin.*

Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade.*

No better opportunity for youths who are possessed of limited means to obtain the higher branches of a practical education.—*Eldorado Press.*

The College is building up an excellent reputation, and should be well supported, especially by those living in this part of the State.—*Abilene Chronicle.*

It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader.*

Is a credit to any State. Its facilities and course are sufficient for furnishing an education equal to any of the eastern States.—*Cherry Vale Leader.*

The people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald.*

An old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education.—*Council Grove Democrat.*

This old and well-established educational institution is among the best in the United States. It has a full corps of competent teachers.—*Jewell County Diamond.*

This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse.*

This is the only school in the State which gives a practical education. All branches of education are taught by the most experienced teachers.—*Lawrence Standard.*

Has taken a place away at the head of State institutions of its class. The leading idea of the conduct of the College is to make practical men and women.—*Wichita Eagle.*

There ought to be one thousand students attending the present term of this College, and our country should be receiving some benefit from this excellent institution.—*Ellsworth Reporter.*

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union.*

This institution is rapidly growing in popular favor, and is an honor to and the pride of the State. Your children receive here not only a theoretical, but practical education.—*Atchison Patriot.*

Has attained a degree of perfectiveness in all its various branches that is not only creditable to the management, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal.*

Its work is eminently practical and thorough; it prepares the young for the duties and responsibilities of active, every-day life, and affords every facility for educating in the higher branches.—*Wamego Tribune.*

Stands at the head of institutions of its kind for giving a thoroughly practical education. Some of the young men and women of Barton county of whom we know would do well to attend.—*Great Bend Democrat.*

Parents who wish to give their children a good agricultural or mechanical education could not do better than to send them to the Agricultural College, as it is the best institution of the kind in the West.—*Scandia Republic.*

The equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere.—*Washington Republican.*

This institution is one of great merit, and its work of usefulness is hardly exceeded by any other institution in the State. Its course of instruction embraces the every-day practical branches.—*Peabody Gazette.*

If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose.—*Wyandotte Herald.*

This is the only school in the State which teaches practical education,—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*North Topeka Times.*

Is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin.*

Its work is eminently practical and remarkably thorough. It prepares the young for the duties and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study.—*Chetopa Advance.*

This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade.*

This institution is rapidly taking rank as the foremost College in the State. Its able corps of teachers are vigilant and active, and the rapid progress which has been made under their management is the best proof of the future prosperity of the school.—*Great Bend Tribune.*

This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph.*

Will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald.*

Stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. If its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State.—*Burlington Independent.*

While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The State is safe in offering its best material to the hand of training and instruction there.—*Valley Falls New Era.*

There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months at the Agricultural College. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal.*

Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations.—*Blue Rapids Times.*

One of the great institutions of the State, and the poor man's college. Here may be obtained a thorough and PRACTICAL education—a knowledge of the every-day duties of life in its many phases—at a minimum expenditure of money; a knowledge that will be called into play in every business relation of life.—*Russell County Record.*

This first-class institution is known throughout the United States for its extraordinary facilities of educating those who patronize it. We are well acquainted with several parties, both male and female, who are attending this College, and they seem determined to remain there until they have completed their education.—*Howard City Courier.*

During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgwick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not appreciated by our citizens as it should be.—*Wichita Beacon.*

Offers superior advantages for affording to the youths of Kansas a practical education, one that can be put to use anywhere and every day in the week, and applied in the affairs of every-day life. Each pupil is required to choose some trade, and in that trade he receives special training by a competent instructor, while he also pursues a theoretical course. Thus the hands and the brains are being educated at the same time.—*Neosho County Record.*

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post.*

rooms for the Department of Instrumental Music, two for the Sewing Department, one for the Telegraph Department, and one for the Printing Department.

Immediately north of the Mechanical building is the

BLACKSMITH SHOP, 20x40, containing two forges and the necessary tools for working iron. It is not shown in the cut, and is the only wooden building on the grounds, all the rest being stone.

One hundred feet east of the Mechanical is the

HORTICULTURAL BUILDING, 31x80 feet, one story and a high basement. The main floor contains two lecture rooms, with apparatus cases; and the basement, in addition to cellars, furnishes a large working room for class practice.

One hundred and fifty feet south of the Mechanical building stands the

LABORATORY, cross form, 109x109 feet, one story. It contains a lecture room, office, balance room, physical laboratory, two large chemical laboratories, and a kitchen laboratory. The

NEW COLLEGE BUILDING will be situated one hundred feet south of the Laboratory. The Practical Agricultural wing will be completed next summer.

KANSAS STATE AGRICULTURAL COLLEGE.

Board of Regents.

N. A. ADAMS, Sec'y, Manhattan, Riley Co.
J. LAWRENCE, Beloit, Mitchell Co.
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Manhattan, Kansas.

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J. A. ANDERSON, President, Prof. Political Economy.
M. L. WARD, Prof. Mathematics and English.
WM. K. KEDZIE, Prof. Chemistry and Physics.
E. M. SHELTON, Prof. Prac. Agricul., Sup't Farm.
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J. E. PLATT, Prof. Elem'y English, Mathematics.
JNO. D. WALTERS, Teacher Industrial Drawing.
HON. D. J. BREWER, Lecturer on Practical Law.
A. TODD, Sup't Mechanical Department.
A. A. STEWART, Sup't Printing Department.
W. C. STEWART, Sup't Telegraph Department.
MRS. M. E. CRIPPS, Sup't Sewing Department.
MISS CARRIE STEELE, Teacher Instrumental Music.

THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; and in Book-Keeping.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the structure, growth, and value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, and in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc. The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs in the Musical Department; and a charge of \$1.00 per month for material and instruments used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Fall Term began August 23d, and will close December 23d, 1877. The Spring Term begins January 3d, and will close May 23d, 1878.

For further information, apply to
JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, NOVEMBER 3, 1877.

No. 29.

THE INDUSTRIALIST.

Published every Saturday by the
PRINTING DEPARTMENT

OF THE

KANSAS STATE AGRICULTURAL COLLEGE.

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INDUSTRIAL EDUCATION.

Not the least of the things of which Kansas has a right to be proud is its magnificent educational system. At the start a wise and vigorous policy was adopted for the education of its youth; and ever since, whether in war or peace, poverty or plenty, the State has steadily developed and carefully fostered its various educational agencies. In addition to its munificent endowment of the public schools, it has provided higher institutions for three distinct kinds of instruction, namely, normal schools for the special training of public school teachers; a university for the education of those proposing to enter the professions of law, medicine or theology; and an agricultural college for the practical education of those who will engage in any of the "industrial professions or pursuits," as distinguished from the "learned professions." The relative demand for the three forms of education is indicated by the proportion in which the citizens of Kansas follow these vocations, as shown by the last United States census. Of every one hundred persons engaged in a vocation by which money is gained, the ratios were as follows:

Normal education:	
Teachers.....	1.13— 1.13
Professional education:	
Ministers.....	0.43
Lawyers.....	0.55
Doctors.....	0.73— 1.71
Industrial education:	
In agriculture.....	59.13
In manufacturing and mechanical.....	14.63
In personal service.....	13.89
In trade and transportation.....	9.51—97.16
	100.00

AGRICULTURAL COLLEGE.

Recognizing the need for an education which should especially prepare the rising generations for an intelligent and successful practice of those vocations which are followed by ninety-seven out of each hundred of its citizens, the first institution endowed and put in operation by the State was its Agricultural College, so named because of the fact that agriculture is, both numerically and actually, the chief of these vocations. The title, "Agricultural" College, is apt to mislead those who are not familiar with the above fact, and also with the further fact that the acts of both Congress and of Kansas provide for an "industrial," as distinguished from a "professional" education. And every semi-occasionally some exceedingly brilliant genius will triumphantly announce his discovery of a mare's nest by shooting off the original conundrum, "Why, Mr. Speaker, is telegraphy, or printing, or dress-making taught in our Agricultural College?" The answer to which is that woman is entitled to such an industrial education as will enable her to earn a living, and, accordingly, that these trades are taught for her benefit, in accordance with the design of Congress.

ENDOWMENT.

The endowment received from the United States Government consisted of 81,601 acres of choice land, all of which had been sold at date of last report, except 31,461 acres now on the market. The proceeds from the sale of lands are invested in school bonds, and the securities in hand amounted to \$238,101.28 by last report. The annual income from this endowment is about \$20,000, out of which all expenses of instruction are paid. The only aid received from the State is for the erection of buildings, in accordance with the conditions of the congressional grant. This is the only one of the State's institutions which is not dependent upon the tax-payer for its maintenance.

LOCATION.

It is situated one mile from Manhattan, Riley county, one hundred and twenty miles west of the Missouri River, in the heart of the great central valley which runs through the finest agricultural State in America. The Kansas Pacific Railway, with its connecting lines, gives speedy communication with every quarter.

COURSE OF STUDY.

The course of study is shaped with direct reference to giving an industrial as distinct from a professional education. It makes the pupil intelligent and expert in the use of the English language; in the use of numbers as employed by the farmer, book-keeper and engineer; and in the use of lines as employed by the carpenter, painter and architect. Words, figures and lines are tools which all men use. It then gives thorough instruction and laboratory or field drill in the following sciences as essentially useful to an intelligent and successful farmer: Physiology, Practical Agriculture, Natural Philosophy, Botany, Entomology, Practical Horticulture, Landscape Gardening, Inorganic Chemistry, Organic and Analytical Chemistry, Surveying, Geology, Mineralogy, Zoology, Meteorology, Agricultural Chemistry, Political Economy, Practical Law and Logic. It has an equally practical and effective course for the education of woman as a woman, instead of as a man, and as a worker instead of as a butterfly. Then, it has a well-stocked farm and nursery, and well-equipped shops, for giving boys practice in farm and nursery work, and in wood and iron work, and for giving girls drill in dress-making, printing, telegraphy, carving, engraving and music.

Back to Kansas.

Albert D. Keller and family, of Iowa, have returned to Holton, with the intention of taking up a permanent residence in our midst. Al has traveled over Iowa and Illinois, and has come to the conclusion that Kansas beats them all.—*Holton Recorder*.

This is the way it is happening every day. The *Champion* recorded yesterday the return of Mr. Connolly, a citizen of this county, who left here three years ago and tried Indiana. He came back perfectly satisfied that Kansas is the best State in the Union. We read in every Kansas paper we receive just such accounts as that copied above from the *Recorder*.

There is something wonderfully attractive in Kansas. It fascinates every one who has ever lived in the State. The development of a new Commonwealth is, perhaps, always an interesting spectacle; and men and women identified with it are always charmed with the breezy freshness and stirring activities that attend such a growth. But Kansas has ever possessed a peculiar charm. Her romantic and stirring history has made her a prominent figure for nearly a quarter of a century. The exciting scenes attending her earlier settlement drew hither a class of men and women whose courage, intelligence, energy, and devotion to principle were of the highest order. In the people who settled Kansas, was much of that sturdy independence and superb manhood which characterized the Pilgrims of the Mayflower. And the country suited such men and women. They have been coming ever since. Like attracts like. The very atmosphere of Kansas is full of invigorating healthfulness. The charm of her landscape will never fade from the recollection of one who has looked upon it, or cease to be a thing of beauty to those who live and work surrounded by its loveliness.

Possibly all this goes to explain the daring and dash of Kansas, and the signal triumphs the State has won in war and peace. Kansas sent more soldiers, in proportion to population, than any other State in the Union, and lost the largest percentage in killed and wounded. Kansas carried off the gold medals for the finest pomological displays during a number of years. Kansas surpassed all other States in the magnificent display she made at Philadelphia. In ten years Kansas outstripped three-fourths of the States of the Union in the miles of railway within her borders. Kansas has triumphed over drouth, Indian raids and grasshopper invasions, and is to-day the most prosperous State in the Union. She has, for every inhabitant, more bushels of wheat, rye, corn, barley, oats and other cereals, more horses, cattle and swine, more fruit, more school-houses, more churches, and more substantial wealth, than any other State in the Union. Kansas is growing and developing in population, in manufacturing industries, in agricultural productions, in stock, in railroad mileage, in forest area, in the number and substantial character of her school-houses, churches, residences and business houses, more rapidly than any other State in the Union.

And through all this wonderful growth, this unprecedented development, this rapid aggregation of population, wealth and production, there is a wholesome, exhilarating State pride that will never let Kansas lag in the rear. All Kansans are proud of Kansas, and hopeful of her, and confident that there is before her a future more glorious than her past and more prosperous than her present. Wherever one who has been a citizen of this splendid young State may wander, he always feels an interest and a pride in Kansas. The State grows into the heart of every true man or woman who has ever lived within its borders, and becomes dear to them forever. Its charming landscape, its rich luxuriance of vegetation, its vast fields of grain, its enterprising cities and pleasant towns, its lovely valleys and gentle swelling hill-sides, and its large-hearted, energetic, intelligent people,—all these combine to make a residence in Kansas an epoch in any one's life, and, should he wander away, make him long to return.

Temporary discontent or disappointment

sends men away at times, but they soon discover that Kansas is, after all, the best. So they feed among the husks awhile, and come back, rejoiced to see Kansas again and resolved never to leave it. This is the almost universal history of our wanderers.—*Atchison Champion*.

Electric Candles--A New Thing.

Among other battles at which one assists this moment in France is that between electricity candles and gaslight. Yesterday evening I visited this peculiar candle manufactory, in the Avenue des Villiers, the director of which is a Russian engineer and also the inventor, M. Joblockoff. Now, as Voltaire observed, light comes from the north. The laboratory is hung with pictures and colored stuffs, which can be as easily distinguished in their shades as if in full noonday. The candles have the same ratio to gas and oil lamps as sun to moonlight. The inventor poured some glasses of water on the flame of his dips, but they burned away all the same. They emit no smoke, and consequently cannot blacken objects, nor any heat 350 times less than an ordinary candle; hence, books will not fall out of their bindings, nor tapestry turn into black snuff. There can be no fire, no explosions, and the light can be laid on some three to fifteen times cheaper than gas or oil light. The light does not tremble or twinkle much, and none at all if it passes through a globe slightly opaque. The candle is composed of two cylindrical sticks of charcoal, separated by a preparation of sand, ground glass, kaolin; a magneto electro machine furnishes the current, which flows from one point to the other of the charcoal rods. Each candle burns three hours, and the extinction of one lights up another. We are more than on the eve of a great discovery; but as the proof of the pudding is in the eating of it, the invention will soon be tested, as the circus, the opera, the Louvre drapery shop, and the railway termini are to be illuminated by the new process. It will never be accepted by ladies for a ball room, as, unlike charity, it will not cover a multitude of sins.—*San Francisco Call*.

Froude on American Schools.

"I go to a school in New England," said the historian Froude, in a recently published article, "where the modern system is developed in its highest completeness. I see the most admirable mechanical arrangements. Ancient languages and modern science and art, history and philosophy, poetry and mathematics—nothing is omitted, nothing is unattempted, and progress is made in all. * * * Yet the experiment has now continued for a generation or two, and the fruits are less apparent than they ought to be. A better education should have produced more vigorous, original thinkers; a more elevated standard of taste; information more exact as well as more diffused, and nobler principles of action. * * * We may look down as much as we please on our grandfathers' ideas; but their notions on this subject were more rational than ours. We ought not to set before a boy the chance of becoming president of the republic, or president of anything. We should teach him first to be a good man, and next to do his work, whatever it may be, as well as it can possibly be done. It is better that a boy should learn to make a shoe excellently, than to write bad exercises in half a dozen languages."

THE New York Tribune of Monday states in its financial article that money is rapidly being sent to the West from New York, for the purpose of moving the crops. Two of the city banks sent nearly a million in cash during the last week, and all the other large banks have sent more or less. At this rate it cannot be long before we begin to feel the benefit of this "inflation of the currency." The West is full of grain; the East is full of idle money; and all that seems to be necessary now to give us better times, is a good chance to exchange our wheat for greenbacks.—*Clay Center Dispatch*.

Fruit in the United States.

The estimate by the government for the Centennial last year, furnished the following statistics of the fruit culture: The number of acres under cultivation in orchards, vines and small fruits is estimated at 4,500,000. The number of trees is estimated as follows: Apples, 112,000,000; pears, 28,260,000; peaches, 112,270,000; grapes, 141,260,000; total, 393,790,000. The estimated value of fruit products is: Apples, \$50,400,000; pears, \$14,130,000; peaches, \$56,135,000; grapes, \$2,118,900; strawberries, \$5,000,000; other fruits, \$10,432,800; making a grand total of \$138,216,700, or nearly equal to one-half of an average wheat crop. The wine product of the United States is estimated at fifteen millions of gallons annually. At the height of the season, there are daily brought into the New York market some ten thousand bushels of straw-berries.—*Kansas Spirit*.

T. C. HENRY and Wm. Vandermark, of this place, returned from Las Animas, Col., last week, where they purchased 5,000 sheep. They are all three and four year old wethers—Merino, Cotswold and Mexican crossed. They are designed for mutton and will be delivered at Abilene November 20th. They will be fed on Mr. Henry's farm east of Abilene, where Mr. H. has 300 acres of corn. Extensive preparations are being made for them. We shall watch the success of this experiment closely, for we believe it inaugurates a new era for our country in handling stock. Colorado and the plains should grow the stock and our cheap and abundant corn and fodder fit them for the eastern markets. As Mr. Henry says, "if with corn at fifteen cents, hay \$2 per ton, there is no money in feeding here, what shall we say for the feeders who try it in the East?"—*Abilene Chronicle*.

Immense Exportations.

The increased facilities for sending fresh meat to Europe have caused the shipment of beef this year thus far to reach a value of \$8,082,036, against only \$1,755,103 for the same period last year; and of mutton, \$113,500 against none in 1876. The live sheep sent in 1877 are valued at \$61,110; in 1876 at nothing. Live cattle this year at \$2,060,950; in 1876 an insignificantly small quantity. The total shipments of butter from January 1st, last, to September 20th consisted of 12,250,690 pounds, against only 5,919,073 last year, and of cheese, 89,650,305 against 53,706,530. And the best of it all is that the figures, in some of these articles bid fair to be increased the coming year.—*Nationalist*.

We would like to proffer a little advice to farmers. Take good care of your farm machinery this winter. If you have no sheds to keep it in, improvise a temporary shelter to shield it from the storms. Now that you have the machinery, take good care of it and make it last as long as possible. It is easier to care for and preserve farm machinery than it is to pay up notes given for new machinery.—*Newton News*.

OUR Western Editor and General Agent are just in from an extended tour of Kansas, and are enthusiastic over the climate, immense agricultural resources and prosperous trade of that great State. The crops of grain and fruit are the largest ever grown west of the Missouri, and the surplus stock of cattle and hogs, feeding for the winter market, fully forty per cent greater than in any former year.—*Chicago Advertiser*.

It is now definitely settled that the State Horticultural Society will meet at Parsons early in December in annual session. These big things like to come down to Southern Kansas, and to Parsons its future big city. There will be about seventy-five delegates. The city and surrounding country will of course largely attend.—*Parsons Sun*.

Great Britain cultivates 2,509,701 acres in barley.

THE INDUSTRIALIST.

SATURDAY, NOVEMBER 3, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Kansas *Farmer* sent several tubs of Kansas butter to the St. Louis fair, which, as a matter of course, received the first and second premiums; whereupon, the *Farmer* is putting on frills and contemplating the Missouri chaps through its imported eyeglass, while leaning gracefully on its gold-headed cane. 'Hoop it (the butter) to 'em!

SAY, INDUSTRIALIST! Is there not danger of that horse, in the cut of the College buildings and grounds, overreaching himself?—*Cherokee Banner*.

Why, bless your life, no! That "hoss" is a regular streak of business lightning. You can see that by the way he goes; and he has been going just that way for two months without stopping, and hasn't damaged his corporosity in the least. You ought to hang out your *Banner* on his outer walls if you want to see it more than fly.

THE Mennonites hail from a cold country, where fuel is costly and heat essential. They ought to know something about good stoves; and, if they do, we ought to benefit by their experience. A correspondent of the *Chicago Tribune*, speaks of a Russian furnace used by the Mennonites in Nebraska, which is heated by straw and fired up but three times a day. The iron work costs but five dollars. If we are not mistaken, a similar furnace was exhibited in the Swedish school-house at the Centennial. Kansas has more grass than wood; and if there is any thing in this story, the farmer might get a better price for hay and many a chap have a smaller fuel bill to pay.

WE don't know a pleasanter host than Lieut. General McMeekin, of the Tefft House, Topeka. Besides being one of the most experienced gentlemen in that business, he is one of the oldest settlers. In fact, it is currently rumored at the Capitol that an ancient manuscript has been found at Madrid, giving an account of Coronado's tour through Kansas in 1541, which makes kindly mention of the Hon. William Allen, of Ohio, and Major McMeekin, of Indiana, by the latter of whom Coronado was handsomely entertained near Fort Riley. Mac says that he was born in Kentucky, not Indiana; and that some of these days he will just slaughter Ben Simpson. Wonder what he wants to kill Major Ben for?

Press Changes.

Lyon county: Clark & McCrary are publishing the *Enterprise* at Hartford. Would like to see it.

Atchison county: The *Atchison Patriot* has enlarged by widening its columns and dressing up generally.

Cowley county: The *Winfield Courier* has enlarged a column, and the new management proposes to rush things.

Linn county: The *LaCygne Journal* drops a column and appears as a seven-column folio, on "business principles." Sensible.

Montgomery county: Jas. G. Lowbridge takes editorial charge of the *Independence Courier*, Frank C. Scott, publisher, Independence.

Jefferson county: And now Mr. A. S. Patrick, an old Kansan and printer, has bought the *Kansas New Era* from A. W. Moore, Valley Falls.

Barton county: J. B. Fugate becomes sole editor and proprietor of the *Arkansas Valley Democrat*, heretofore published by Fugate & Smythe, Great Bend.

Wilson county: It is said that the *Fredonia Citizen* has got inside of a patent outside. The last number we saw was home-made and a typographical gem.

Marshall county: C. E. Tibbetts has sold a half interest in the *Blue Rapids Times* to E. M. Brice. The former will be editor and the latter publisher. Firm name, C. E. Tibbetts & Co., Blue Rapids.

Do It.

The suggestion of Judge F. G. Adams, the efficient Secretary of the State Historical Society, that a course of lectures be given this winter in each Kansas town upon the early and later history of the county or State, is one of the most sensible and pleasant things to have done that can be proposed. As a matter of right to them, credit ought to be given to the pioneers; and as a matter of equity to posterity, the truths of history should be collected and preserved. The new comers would have a less vivid idea of their own troubles if they had a more vivid realization of the trials and heroisms of the old settlers; and just to the extent that this result were brought about would the general tone and hopefulness of the State be improved, which aforesaid tone is a decided element in securing immigration, and affects the cash value of land.

Only the larger cities can secure eastern lecturers, but any village can give to itself great pleasure as well as profit by listening to the story of its own growth from the lips of its own citizens. There is a rich vein of strength and cheer, as well as of romance, in the tales of our early days, which can be worked easily now, but only with the greatest difficulty after this generation has passed away. And every paper is glad to publish its county history, simply because such matter has a personal interest for its readers. The editors can put it through by shaking up their readers a little.

Editorial Courtesy.

It is so natural and almost inevitable for papers published in the same community to hate and abuse each other, especially when of opposite political parties, that the genial congratulations so handsomely given by the *Atchison Champion* to the *Atchison Patriot*, upon the enlargement of the latter, are peculiarly refreshing.

Editors can differ in the broadest way upon any and all subjects, and can discuss their differences in the keenest and most vigorous manner, without discussing each other. As a rule the public cares precious little whether one editor regards another as a fraud, and whether the other regards the one as a fool, or not. Subscribers do not pay for information respecting the other chap's foibles, history or family; but for information respecting current events of greater breadth and importance. And while, under the lash of anger, it is a gratification to every properly organized mule to be able to spatter mud over the driver, yet communities are generally much more interested in events than persons.

There are exceptions to the rule, and times when the proper thing to do is to fight a bully with his own weapons; but these occasions are rarer than angry editors are apt to believe them to be. It isn't necessary to kick every puppy that barks at you, any more than it would be excusable for an engineer to stop his train whenever he espied a polecat on the track ahead, defiantly waving an odoriferous challenge to mortal combat.

As a matter of comfort, as well as of sense, it is better to discuss measures than men. And it is quite probable that the annual excursions of editors, by bringing these gentlemen together in their personal and not at all in their official capacities, have done much and will do yet more towards excluding the dung-fork from the arsenal of every well-furnished sanctum. When that noble

implement is really needed, it can be easily borrowed. But it isn't used half as much as formerly; and be it hoped that sunnier days, fragrant with the perfume of violet wit and mew-mown logic, are to outnumber the manure-hauling days in Kansas journalism as greatly as they do in successful farming.

Nobody questions the earnestness of Col. John A. Martin's republicanism or of Mr. Park's democracy. The vigor of their political warfare is equally unquestionable; and the probability of rivalry as great as between the papers of any other city. And when, in the heat of a local campaign, the *Champion* went out of the ordinary road to welcome the prosperity of the *Patriot*, it did a manly thing in a courteous way. We haven't yet seen the *Patriot's* reply, but, upon a fixed law of human nature, can easily believe that the spirit would be the same. And it is because of a notion that the following words block out the platform of true journalism that we have referred to the matter:

The *Patriot*, since its present managers assumed charge of it, has been the most ably edited and enterprising Democratic newspaper ever published in this city. Mr. Park is a vigorous and fluent writer, and Mr. Vandegrift is an industrious and capable local itemizer. Our relations with them have been exceedingly pleasant. They understand that it is not necessary for opposing newspapers to be abusive enemies, and that it is possible to disagree in politics and to maintain a generous rivalry in business, while at the same time preserving those social amenities which ought to characterize the intercourse of gentlemen. They have made the *Patriot* a better paper than it ever was before they took charge of it. They have made it a credit to the city and to the party it so ably and earnestly advocates. And they have deserved that success which, we believe, they have achieved in the journalistic field.

Industrial Art Education. No. 2.

The attempt of our government to foster industrial art by a tariff, I compare with the sower that went out to sow his seed on a rock. It doesn't bear much fruit. As the case is to-day, there is very little to protect. Those who howl for a tariff seek to protect not trade but ignorance. We have, for instance, all the raw material on hand to make buttons; we have it more abundantly than Europe, but still we import annually over two millions of dollars worth of these small articles. What shall we say to excuse this? Can anything be said? What do we protect but ignorance if we still import four-fifths of our fancy buttons, notwithstanding the crutch of protection used for half a generation. In other branches of art industry, we have held our own a little better, partly on account of heavy immigration. Indeed, a greater part of our fresco painters, stone-cutters, pattern-carvers, opticians, watch-makers, engravers, etc., are Europeans. To this Willson says: "If we would build up our manufactories on a broad scale, so as to bring their products into successful competition with those of England and France, we must not rely upon a few imported draughtsmen and designers and vainly hope that uneducated artisans will work out foreign patterns with taste and beauty; but we must lay the foundations of art superiority broad and deep in the art education of all mechanics, and in the educated taste of the people. Then draughtsmen and designers will spring up wherever needed."

Besides a nearly entire absence of a systematic art training or education of our working classes, there are other negative factors in our industrial life which must be counterbalanced. For instance, the blind fashion of our capitalists and factory owners to give their sons a literary instead of a

scientific and industrial education. In place of giving them the principles of the sciences and arts, of commerce and political economy, they are stuffed with dead Latin, deader Greek, and the deadest systems of ancient philosophers. That an aristocratic education of this kind bears but sour apples for the industrial life of our nation is, I think, hardly disputable. We must be just towards the ancients but also towards ourselves.

Another point is the bad influence of our abounding deformed architecture. While the artisan of Europe is surrounded by monumental buildings and ornamental structures of all styles and ages, our towns and cities present to our artisan a kaleidoscopic view that resembles a toy-stand at Christmas more than anything else. Fully one-half of the buildings in our larger towns are built after the "store-box pattern," as some call it. Huge, square, monotonous and bare of ornament, painted in bloody red, mourning black, etc. Oftentimes our public buildings present the appearance of a large salt and pork magazine in Havre or Hamburg rather than of a temple of liberty. It is hard to acknowledge such a statement, but it is true. This, of course, does not apply everywhere; there are noble exceptions. It seems, too, that for the past few years a real æsthetic progress has been showing its signs in this branch of applied art, more than in any other. Let me also remark that in one speciality America beats Europe decidedly; it is in river steamboat architecture.

A third point is the decay of our system of apprenticeship. Twenty-five years ago the young mechanic served an apprenticeship of two or more years, as a rule expecting during that time no other compensation from his master than the fullest instruction in everything pertaining to his trade. Now journeymen turn themselves out in four or five months. The use of machinery, which has in a great many cases put an end to small enterprises, has promoted a subdivision of labor. The beginner confines himself to one department and soon earns wages. This gratifies both himself and his parents, and so he continues as he began. While this is to the present advantage of employer and employe, it is to the ultimate disadvantage of both. The educational influence of the work-shops under the old system is lost. It is well that all that can be done by machinery should be so done. A mere routine act, requiring brute strength without intelligence, can be performed more evenly and regularly by dead matter than by living force. A moral being should not be degraded to the level of the brute elements, or lowered to the rank of an un sentient machine. But the time so gained should be improved, the workman should indeed raise himself above the wheel combination which he feeds and oils. We need thinkers and inventors,—men who lay out the work and men who complete it.

With the result of European experiments before us and a clear understanding of our own needs, it does seem that there should be no more misconception of what is really meant by art education and no more blunders. The main difficulty is to get started and to make those concerned in the matter understand that something must be done and that with speed. Arguing from the æsthetic stand-point is wasting time. As Heine said, we must bring "soup logic with bread arguments in it."—J. D. Walters.

THE Adjutant General of Kansas wants the addresses of the following officers of Company H, 5th Illinois Cavalry: Capt. John Nelson, Lieut. Robert Nelson and Sergeant George Cooper. Eight years ago they left Nashville, Washington county, Illinois, for Kansas—like sensible men.

THE INDUSTRIALIST.

SATURDAY, NOVEMBER 3, 1877.

RAILROAD TIME-TABLE.

KANSAS PACIFIC RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:15 A. M.
Going West..... 5:05 P. M.

FREIGHT ARRIVES.

Going East..... 5:05 P. M., and 3:50 A. M.
Going West..... 6:30 A. M., and 8:05 A. M.
Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

METEOROLOGICAL RECORD.

Condensed by Prof. Kedzie from the observations taken at the State Agricultural College, for the week ending November 1st, 1877. Latitude, 39°12'; Longitude, 96°40'; Height, 1,200 feet.

DAY OF WEEK AND MONTH.	Temperature.			Bar.	Mean Height.	Rainfall.
	Max.	Min.	Mean.			
Friday.....	26	73°	39°	59°	75	28.47
Saturday.....	27	65	43	54		28.59
Sunday.....	28	58	34	50	25	28.60
Monday.....	29	55	37	47		28.95
Tuesday.....	30	53	38	47		28.94
Wednesday.....	31	60	31	49	25	28.80
Thursday.....	1	45	39	43	50	28.54

Average temperature for the week, 50° 10.
Range of temperature for the week, 42°.
Rainfall for the week, .18 inches.

ABSTRACT FOR OCTOBER.

Thermometer.—Mean temperature, 53° 37, which is .24 of a degree above the mean for October for 14 years; maximum temperature on 2d, 80°; minimum temperature on 3d and 20th, 27°.

Barometer.—Mean height, 28.76 inches; maximum height, 10th, 29.05; minimum height, 28th, 28.39.

Rain.—Total rainfall for the month, 9.07 inches, the greatest fall ever measured at this station, 7.28 inches above the average for October for 14 years. Rain fell on twelve days.

Clouds.—Per cent of cloudiness: 7 A. M., 70; 2 P. M., 71; 9 P. M., 58; mean, 66. Entirely cloudy days, 14; partly cloudy, 17; entirely clear, none. Heavy fog on the 26th.

Winds.—Northwest, 10 times; north, 2; northeast, 22; southwest, 27; southeast, 6; calm, 26.

Ozone.—Day: Max., 6; min., 2.89. Night: Max., 9; min., 2.85.

CHURCH DIRECTORY.

BAPTIST.—Rev. S. Pillsbury, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; Prof. M. L. Ward, Sup't.

CHRISTIAN.—Rev. A. D. Goodwin, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School at 10 A. M.; Mrs. A. D. Goodwin, Sup't.

CONGREGATIONAL.—Rev. R. D. Parker, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; Prof. J. E. Platt, Superintendent.

EPISCOPAL.—Rev. J. H. Lee, Pastor. Service at 11 A. M. every Sabbath. Sabbath School immediately after service; Rev. J. H. Lee, Sup't.

FIRST METHODIST.—Rev. R. Wake, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; L. R. Elliott, Superintendent.

SECOND METHODIST (colored).—Rev. J. S. Grifing, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School at 3 P. M.

PRESBYTERIAN.—Rev. Wm. Campbell, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; Rev. Wm. Campbell, Sup't.

LITERARY SOCIETIES.

ALPHA BETA.—Chartered, December 26th, 1870. Meets in College building every Friday at 2 P. M. Ladies admitted. New students cordially invited to attend. AMOS E. WILSON, President. MISS EMMA COOK, Secretary.

WEBSTER.—Chartered, January, 1871. Meets in Telegraph Hall every Saturday evening. Visitors, especially students, always welcome. IRVING TODD, President.

A. N. GODFREY, Secretary.

MANHATTAN NEWSPAPERS.

THE ENTERPRISE.—A. L. Runyan, Editor and Proprietor. Published every Wednesday. Send for sample copy.

THE NATIONALIST.—Albert Griffin, Editor and Proprietor. Published every Friday. Send for sample copy.

Miss Ella Winne is teaching school in the Eureka Bottom, and with good success.

The INDUSTRIALIST is much obliged to Prof. J. D. Walters for regular assistance on mailing day.

School District Boards about to issue bonds will find it for their interest to note the advertisement in this number calling for bonds.

A member of an old class, who has been out of College for over a year, in a private letter speaks of the INDUSTRIALIST and the College in this wise: "I was greatly surprised at the improved appearance of the INDUSTRIALIST. Although the most of our class have left the College and Manhattan, yet I know we all look back to our College days with pleasure. The Agricultural College seems like home; and when the INDUSTRIALIST comes, it seems like getting a letter from home."

During the last month the following students reached the first rank, averaging between ninety-five and one hundred in all recitations:

Bernhard Anderson, McPherson county; Arthur T. Blain, Riley; Estella M. Bouton, Greenwood; Jennie A. Coe, Missouri; Wilmer K. Eckman, Osborne; Ellen Fletcher, Riley; Albert N. Godfrey, Greenwood; George L. Platt, Riley; Corwin J. Reed, Pottawatomie; Lewis A. Salter, Montgomery; William H. Sikes, Pottawatomie; Clement O. Smith, Lyon; Amos E. Wilson, Dickinson; Nena M. Wilson, Dickinson; Clarence E. Wood, Pottawatomie.

Friday, October 26th, the Alpha Betas met as usual. The names of Miss Glossop and C. O. Smith were proposed for membership. Officers-elect for the remainder of term are as follows: President, Amos Wilson; Vice-President, A. H. Stiles; Secretary, Miss Emma Cook; Treasurer, A. A. Stewart; Marshal, W. H. Sikes.

By a somewhat extended debate, it was clearly shown that you can successfully educate men to become farmers. On account of the monthly examination the editors were unable to issue the second number of the Gleaner. Accordingly, it was postponed one week.

Question for debate next week: "Resolved, That hope exerts a greater influence over man than does fear." The Society has added to its choice library the book entitled, "Words, Their Use and Abuse," by Prof. Matthews, of Chicago. S. H. W.

At the Webster Society last Saturday evening, the officers elected at the previous meeting were installed. The retiring President, Mr. Godfrey, was then called upon for a valedictory, and responded in an eloquent and very appropriate speech. Mr. Irving Todd, the new President, favored the Society with a few well-chosen remarks. Mr. George H. Storch was then elected a member of the Society, and Mr. Wright was initiated.

The question, "Resolved, That the farmer leads a better and more independent life than the mechanic," was discussed by Messrs. Eckman, Godfrey and Salter, on the affirmative; and Messrs. Wood, Todd and Anderson, on the negative. Decision in favor of the affirmative. During extemporaneous speaking various subjects of interest were discussed, the annexation of Cuba and the metric system being the principal ones.

At the next meeting the question, "Resolved, That the present system of electing officers by electors should be abolished," will be debated by S. N. Peck, J. B. Dickson and Bernhard Anderson, on the affirmative; and J. H. Harvey, J. A. Bell and Pierce Hickey, on the negative.

REPORTER.

AN INQUIRY.

EDITOR INDUSTRIALIST:—As you have grown so much, you will now have more room for communications. There is one subject to which I would like to call the attention of the students, and take this method of doing it.

One would suppose that whatever the Rev. Joseph Cook, of Boston, says might be considered as fact. But he said one thing in his lecture on "Ultimate America," extracts of which were published in the INDUSTRIALIST, that I am inclined to doubt as being true. In comparing the lands under the equator of the Old and New Worlds, he said that the "Sahara is so low that it might be, as it ought to be, made a navigable sea by a channel from the Mediterranean or the ocean." Now, I am aware that a writer in the *Scientific American* has advocated this idea. But I know that the desert has always been supposed to be several hundred feet above the sea level, and never gave the subject much attention. I just supposed that the writer was some person who had a pet theory, and had gone a little crazy over it, as all men who have hobbies generally do. Still, when a man like Mr. Cook not only says that the Sahara can but ought to be made a navigable sea, I begin to think may be such is a fact.

I would like to have an expression from some of the students as to whether the thing can be done. Having access to the library where reference books and tables can be consulted, they can easily ascertain as to the feasibility of the project. The geographer Guyot, whom I have always considered as good authority, says the Sahara is on an average about 1,500 feet above sea level. He also says there are several low regions just south of the Mediterranean coast, and between the Atlas mountains and the Nile, which are considerably below sea level; but these are only a very small part of the desert, and the idea of making a "navigable sea" out of the Sahara desert sounds ridiculous to me. How is it?

In conclusion I must say that the INDUSTRIALIST looks much better since it was enlarged. ZE. Grantville, Kan., October 18th, 1877.

MAY BE NOT!

The INDUSTRIALIST can rise and make a few broken remarks about its typography without the least egotism, for the reason that it and the students who set the type are entirely distinct parties; and in speaking well of them it is not praising itself. It was started, in a great measure, for the purpose of giving the printing classes practical drill in the routine work of getting out a weekly paper. To hire skilled compositors and issue a journal that is typographically creditable would be easy enough; but when it was first proposed to make a regular publication which should depend for its workmanship upon the skill of pupils who, on entering the classes, didn't know a stick from a space, strong objections were fairly urged. These objections boiled themselves down to one question, namely, Can a thorough education and a trade be taught at the same time and obtained by the same party? We believed they could; and in spite of many sneers about "lowering education by teaching trades," set about it. Those sneers, by the way, somehow always suggested to our imagination the pompous dignity of the solemn old monkey in the "happy family" cage of a menagerie, who evidently believes himself to be doing the heavy intellectual work for the entire outfit, bless his royal idiocy!

The Printing Department was only one of several departments that were started; and, as the difficulty of teaching printing is perhaps greater than that of teaching the other trades, the results reached in this department may fairly be taken as tests respecting the success in the others. Such students as select this industrial, practice at the case, under the instruction of the superintendent, forty-five minutes a day five days in the week. Much of the type in this issue has been set by students who have been in the College less than six months, and who never touched a quad before; and all of the type has been set by students alone. It just so happened that the "make-up" and "press-work" of this outside are exclusively the work of Irving Todd and Clement O. Smith, both students, neither of whom has worked in any other office a month. The make-up and press-work of the inside will also be done by them, and that, too, on their own responsibility, and not with Stewart standing by to direct. While we don't claim that they are "journs," yet we are quite willing that the craft shall pass judgment upon the workmanship of this issue as compared with that of the average weekly of any State.

It is for the reasons above suggested, then, that the favorable verdict so cordially given in the press notices by the best of judges, the working printers of Kansas, is peculiarly gratifying. The INDUSTRIALIST is a standing proof that the hardest of all trades can be mastered by students who, at the same time, are equally mastering all the practical sciences. The same fact can as easily be proven by the work of the other industrial departments. As we read these notices, it is quite natural that the old cry, "it can't be done," should come to mind; and with it comes the answer, "Oh no, may be not!"

NATIONALIST ITEMS.

Hon. Welcome Wells has had twelve men four weeks picking apples in his orchard and they are not through yet.

There is hardly a vacant tenement in town. This is somewhat different from most towns hereabouts, where you see the legend, "to let," in profusion upon the houses.

Some of the handsomest work in Kansas was sent west a few days ago, in the shape of cut stone, done by Mr. Ulrich and son, the latter a late graduate of the State Agricultural College.

George Emmons, of St. George, who attended the Agricultural College last winter, left for Grand Rapids, Mich., this week, where he enters a job printing office. George is a good boy, and may he come out a full-fledged printer.

A. A. Stewart and Will Ulrich organized a Division of the Sons of Temperance on McIntyre Creek last Monday evening. There were twenty-three signers for a charter and fourteen were initiated. The Division promises to be a very good one.

There are two or three telephones in town, owned by the enterprising Professors at the State Agricultural College. One Professor, half a mile from another, heard the latter, with his wife, sing a duet a few days ago; and nearly a mile from the depot heard a message which came over the Western Union Telegraph wires. One might as well have the fabled glass window before one's heart and "done with it," as to try and keep a secret in these days of such wonderful inventions. We are only waiting now for the pneumatic tube in which to go, in an instant of time, to the Atlantic Coast or Gulf of Mexico.

PRESS NOTICES.

The Manhattan INDUSTRIALIST comes to us in an enlarged form, and presents an improved appearance.—*Galena Miner.*

The Manhattan INDUSTRIALIST has enlarged a column to each page, which makes it now a neatly printed sixteen-column paper.—*Olathe Progress.*

The INDUSTRIALIST rejoices that with last week's issue it was two and one-half years old. We hope this welcome little sheet will live to be a centenarian.—*Waterville Telegraph.*

The INDUSTRIALIST, published at Manhattan by the faculty of the Industrial College, comes to us this week in an enlarged form, very much improved in appearance, and is well worth the subscription, seventy-five cents a year.—*Eureka Centennial.*

The INDUSTRIALIST, a weekly newspaper published at the printing department of the State Agricultural College, Manhattan, and edited by Prof. Jno. A. Anderson, has been enlarged. It is edited and printed in first-class style.—*Larned Press.*

The INDUSTRIALIST, the Agricultural College paper, came to us last week enlarged. Its enlargement was the only way open to its improvement, for it was before, as it is now, the neatest, cleanest, and ablest edited paper in the State.—*Louisville Reporter.*

The INDUSTRIALIST has been enlarged one column in width, with corresponding growth otherwise, and is one of the neatest and best papers on our exchange list; and what it lacks in size it more than makes up in pith and ability.—*Osage Mission Journal.*

The INDUSTRIALIST of the 13th comes to hand enlarged and in every way much improved. It is now a spicy, neat,—we dare not say little,—four-column paper, containing much interesting matter, the mechanical work upon which cannot be excelled in the State.—*Oxford Independent.*

The INDUSTRIALIST, published at and by the faculty of the Manhattan College, has been enlarged to a sixteen-column paper. Mechanically, it is a prodigy of neatness, and its columns abound in excellent reading pertaining to local and general interests.—*Wamego Tribune.*

The INDUSTRIALIST, published under the auspices of the Manhattan Agricultural College, is a credit to that institution and an honor to the printing craft. It has recently been enlarged. It costs

only seventy-five cents a year, and being full of educational articles, essays and items of general interest, it is cheap.—*Hawthra Herald.*

Oh, pshaw! We have up to this time consoled ourselves with the thought that this paper was not the smallest one in the State. The INDUSTRIALIST, of the Kansas State Agricultural College, has been heretofore the size of the *Galaxy*, but has recently grown a column larger, just to spite us, we believe. Now, is not that mean?—*Marion Center Galaxy.*

In another column will be found the advertisement of the State Agricultural College. This popular school is under the management of John A. Anderson, and has gained a national reputation. The attention of parents who have children they desire to educate away from home, is called to the advantages of this College.—*Neodesha Free Press.*

The INDUSTRIALIST, of Manhattan, has worn out its old dress and now, much enlarged as she is, she has donned a full-sized pattern. Cut low in the neck with a standing collar, a pinback, and a pair of neat boots with high heels, she steps out before the world as a first-class farm and educational paper. Price, 75 cents per year.—*LaCrosse Progress.*

The INDUSTRIALIST, published at the Agricultural College, has grown to immense proportions since a fortnight ago. It is now nearly twice as large as it was then, and more interesting reading than ever. We regard the INDUSTRIALIST as one of our best exchanges, and it never escapes without holes when scissor-time comes.—*Clay Center Dispatch.*

The INDUSTRIALIST, ably edited by Jno. A. Anderson, the level-headed President of the State Agricultural College, and excellently printed by the students of that institution, has "spread out," i. e., enlarged. No paper in the State averages more square inches of solid sense than the INDUSTRIALIST, and we are glad there's to be more of it.—*Marion County Record.*

The INDUSTRIALIST took a sudden growth in size at the age of two and a half years. It is now larger by a few columns than formerly, and consequently has more room for the excellent matter with which it is always filled. There is no paper in the State from which we like to clip better than the INDUSTRIALIST; and we are glad of the enlargement, for this gives us a better chance.—*Chetopa Advance.*

The INDUSTRIALIST, published by the printing department of the Agricultural College, Manhattan, comes to our table enlarged. It is a very handsome sheet, and ably conducted. In our columns will be found the advertisement of the Agricultural College, to which we the second time beg leave to call the attention of all those having boys to educate. We ought to have a large delegation of boys from Miami county at this school. President Anderson is one of the ablest educators in the West.—*Paola Republican.*

There! The INDUSTRIALIST, of Manhattan, has made a fresh tally. It was a jewel—three columns to the page. We didn't think it could be improved. And yet it came to us last week, longer, broader,—we like to have said—deeper. It now has four columns to the page, and contains matter enough for two papers of ordinary size. We have endeavored to keep every copy of the INDUSTRIALIST since it started. We shall have them bound some of these days. When a man comes to us and inquires what fruits are best adapted to Kansas, we point to the little INDUSTRIALIST, with the injunction "do not take any away." He asks about hogs, sheep, stock, grasses, grains, and if we wish to give him an answer we are willing to risk our reputation on—a perfectly original one—we just hand him the *Marysville Lottery Advocate* to read, while we fortify ourselves by stealing a glance at the files of the INDUSTRIALIST.—*Blue Rapids Times.*

Bookseller and Stationer.—S. M. Fox dealer in Fine Stationery, Pocket-Books Envelopes, Gold Pens, Blank Books, etc. No. 127 Poyntz Avenue, Manhattan. 19-3m

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing and Painting.

School District Bonds.—School District Boards about to issue bonds are invited to correspond with us before negotiating elsewhere, as we always pay the highest market price. Send to us for blank bonds, which are furnished free of charge. Address E. Gale, Loan Commissioner, Manhattan, Kansas. 19-tf

Kansas Publishing House.—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

Agricultural College Lands.—These lands are in the market, as provided by law, and for sale for one-eighth cash, balance in seven equal annual payments with ten per cent interest, payable annually. The lands are all choice selections, and prices range generally from \$5.00 to \$6.25 per acre. Some of the best tracts are appraised at from \$8 to \$10 per acre, and they are well worth the money. These lands are located in Washington, Marshall, Clay, Riley and Dickinson counties. For particulars, maps and descriptions, address L. R. Elliott, Agent, Manhattan, Kas.

Buildings.

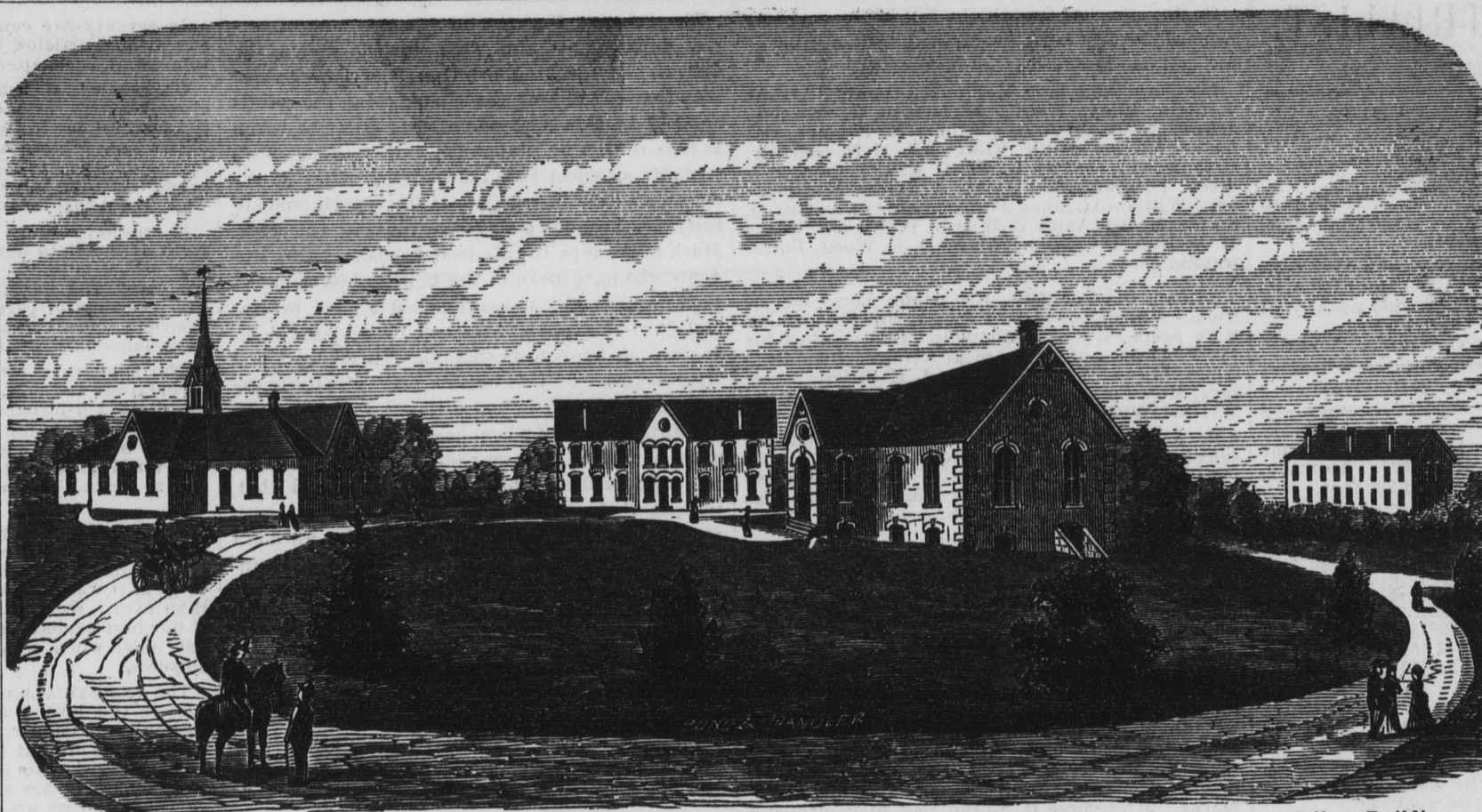
This engraving gives a good idea of the relative situation of the several buildings used by the Agricultural College, and, so far as can be done in the space, a fair notion of the appearance of the buildings. The one on the right is at present known as the

COLLEGE BUILDING, though it is only temporarily used as such. It was built before our day, and was designed as one wing of an extensive barn. It is 42x100 feet, two stories high, and, besides the chapel, contains nine rooms which are used by the literary departments for recitation purposes.

THE NEW BARN is not shown upon the cut, but is situated about five hundred feet northeast of the College building, and is of the same size. It is admirably adapted to its purpose, furnishing complete accommodations for forty head of cattle and the horses needed on the farm.

About five hundred feet south of the College building stands the

MECHANICAL BUILDING, which is 38x102 feet and two stories high. The whole of the lower floor is used as a carpenter shop and is filled with benches, saws, lathes, etc. The upper floor furnishes three



Laboratory Building.

Mechanical Building.

Horticultural Building.

College Building.

KANSAS STATE AGRICULTURAL COLLEGE.

rooms for the Department of Instrumental Music, two for the Sewing Department, one for the Telegraph Department, and one for the Printing Department.

Immediately north of the Mechanical building is the

BLACKSMITH SHOP, 20x40, containing two forges and the necessary tools for working iron. It is not shown in the cut, and is the only wooden building on the grounds, all the rest being stone.

One hundred feet east of the Mechanical is the

HORTICULTURAL BUILDING, 31x80 feet, one story and a high basement. The main floor contains two lecture rooms, with apparatus cases; and the basement, in addition to cellars, furnishes a large working room for class practice.

One hundred and fifty feet south of the Mechanical building stands the

LABORATORY, cross form, 109x109 feet, one story. It contains a lecture room, office, balance room, physical laboratory, two large chemical laboratories, and a kitchen laboratory. The

NEW COLLEGE BUILDING will be situated one hundred feet south of the Laboratory. The Practical Agricultural wing will be completed next summer.

The Press on the Agricultural College.

A superior institution of learning.—*Minneapolis Sentinel*.

One of the best of that kind in the State.—*Jewell County Monitor*.

One of the best institutions in the West.—*Lincoln Center Register*.

An institution that every Kansas farmer should feel proud of.—*Farmers' Advocate*.

Is the place for obtaining a thorough and practical education.—*Winfield Courier*.

It has become a valuable educational adjunct to the school system of our State.—*Iola Register*.

One of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News*.

Under the superintendence of able instructors, and offering great advantages.—*Osage City Press*.

Combines the practical with the theoretical in a most satisfactory manner.—*Garnett Plaindealer*.

One of the best conducted schools in the country. Its students all speak well of it.—*Emporia Ledger*.

Those desiring a practical education cannot do better than to attend the "Agricultural."—*Alma News*.

Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette*.

Every friend of education will wish the institution continued and increased success.—*Concordia Empire*.

They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Expositor*.

An honor to the State, and will be the means of unlimited good to the rising generation.—*Elk County Ledger*.

All those who wish to obtain a practical education can get it there at very moderate expense.—*Wyandotte Gazette*.

The aim of this College is to teach its pupils just what will be useful to them in after life.—*McPherson Independent*.

Several pupils from this city are now in attendance there, and are well pleased with the institution.—*Dodge City Times*.

Has taken a high position, and is entitled to the hearty support of all friends of popular education.—*Osage Mission Journal*.

The President and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun*.

An excellent institution, under the care of an able management, and a desirable place to get an education.—*Augusta Gazette*.

Gives such an education to the farmer, mechanic or woman as will enable them to earn a livelihood.—*Chase County Courant*.

Is making its influence felt for practical good, and we recommend it to those seeking a thorough education.—*Burlington Patriot*.

It is the best educational institution in the West, eminently prosperous and deservedly popular with the masses.—*Wellington Press*.

One of the best educational institutions in the West, and should be sustained and kept in a flourishing condition.—*Harvey County News*.

Farmers and other citizens who expect to send their young men or women from home to school, should address the President.—*Troy Bulletin*.

Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade*.

No better opportunity for youths who are possessed of limited means to obtain the higher branches of a practical education.—*Eldorado Press*.

The College is building up an excellent reputation, and should be well supported, especially by those living in this part of the State.—*Abilene Chronicle*.

It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader*.

Is a credit to any State. Its facilities and course are sufficient for furnishing an education equal to any of the eastern States.—*Cherry Vale Leader*.

The people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald*.

An old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education.—*Council Grove Democrat*.

This old and well-established educational institution is among the best in the United States. It has a full corps of competent teachers.—*Jewell County Diamond*.

This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse*.

This is the only school in the State which gives a practical education. All branches of education are taught by the most experienced teachers.—*Lawrence Standard*.

Has taken a place away at the head of State institutions of its class. The leading idea of the conduct of the College is to make practical men and women.—*Wichita Eagle*.

There ought to be one thousand students attending the present term of this College, and our country should be receiving some benefit from this excellent institution.—*Ellsworth Reporter*.

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union*.

This institution is rapidly growing in popular favor, and is an honor to and the pride of the State. Your children receive here not only a theoretical, but practical education.—*Atchison Patriot*.

Has attained a degree of perfectiveness in all its various branches that is not only creditable to the management, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal*.

Its work is eminently practical and thorough; it prepares the young for the duties and responsibilities of active, every-day life, and affords every facility for educating in the higher branches.—*Wamego Tribune*.

Stands at the head of institutions of its kind for giving a thoroughly practical education. Some of the young men and women of Barton county of whom we know would do well to attend.—*Great Bend Democrat*.

Parents who wish to give their children a good agricultural or mechanical education could not do better than to send them to the Agricultural College, as it is the best institution of the kind in the West.—*Scandia Republic*.

The equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere.—*Washington Republican*.

This institution is one of great merit, and its work of usefulness is hardly exceeded by any other institution in the State. Its course of instruction embraces the every-day practical branches.—*Peabody Gazette*.

If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose.—*Wyandotte Herald*.

This is the only school in the State which teaches practical education,—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*North Topeka Times*.

Is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin*.

Its work is eminently practical and remarkably thorough. It prepares the young for the duties and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study.—*Chetopa Advance*.

This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade*.

This institution is rapidly taking rank as the foremost College in the State. Its able corps of teachers are vigilant and active, and the rapid progress which has been made under their management is the best proof of the future prosperity of the school.—*Great Bend Tribune*.

This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph*.

Will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald*.

Stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. If its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State.—*Burlington Independent*.

While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The State is safe in offering its best material to the hand of training and instruction there.—*Valley Falls New Era*.

There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months at the Agricultural College. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal*.

Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations.—*Blue Rapids Times*.

One of the great institutions of the State, and the poor man's college. Here may be obtained a thorough and PRACTICAL education—a knowledge of the every-day duties of life in its many phases—at a minimum expenditure of money; a knowledge that will be called into play in every business relation of life.—*Russell County Record*.

This first-class institution is known throughout the United States for its extraordinary facilities of educating those who patronize it. We are well acquainted with several parties, both male and female, who are attending this College, and they seem determined to remain there until they have completed their education.—*Howard City Courant*.

During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgwick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not appreciated by our citizens as it should be.—*Wichita Beacon*.

Offers superior advantages for affording to the youths of Kansas a practical education, one that can be put to use anywhere and every day in the week, and applied in the affairs of every-day life. Each pupil is required to choose some trade, and in that trade he receives special training by a competent instructor, while he also pursues a theoretical course. Thus the hands and the brains are being educated at the same time.—*Neosho County Record*.

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post*.

KANSAS STATE AGRICULTURAL COLLEGE.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; and in Book-Keeping.

FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the structure, growth, and value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, and in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

MECHANIC'S COURSE.

To Mechanics, in addition to the studies of the Farmer's Course, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

WOMAN'S COURSE.

The course of study for woman is more practical and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc. The work-shops include those of Millinery and Dress-making, Printing, Telegraphy, Scroll-sawing, Carving, Engraving and Instrumental Music.

TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos, organs in the Musical Department; and a charge of \$1.00 per month for material and instrument used by male students in Printing and Telegraph Departments. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Fall Term began August 23d, and will close December 23d, 1877. The Spring Term begins January 3d, and will close May 22d, 1878.

For further information, apply to
JNO. A. ANDERSON, President.

THE INDUSTRIALIST.

VOL. III.

MANHATTAN, KANSAS, SATURDAY, NOVEMBER 10, 1877.

No. 30.

THE INDUSTRIALIST.

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INDUSTRIAL EDUCATION.

Not the least of the things of which Kansas has a right to be proud is its magnificent educational system. At the start a wise and vigorous policy was adopted for the education of its youth; and ever since, whether in war or peace, poverty or plenty, the State has steadily developed and carefully fostered its various educational agencies. In addition to its munificent endowment of the public schools, it has provided higher institutions for three distinct kinds of instruction, namely, normal schools for the special training of public school teachers; a university for the education of those proposing to enter the professions of law, medicine or theology; and an agricultural college for the practical education of those who will engage in any of the "industrial professions or pursuits," as distinguished from the "learned professions." The relative demand for the three forms of education is indicated by the proportion in which the citizens of Kansas follow these vocations, as shown by the last United States census. Of every one hundred persons engaged in a vocation by which money is gained, the ratios were as follows:

Normal education:	
Teachers.....	1.13= 1.13
Professional education:	
Ministers.....	0.43
Lawyers.....	0.55
Doctors.....	0.73= 1.71
Industrial education:	
In agriculture.....	59.13
In manufacturing and mechanical	14.63
In personal service.....	13.89
In trade and transportation.....	9.51=97.16
	100.00

AGRICULTURAL COLLEGE.

Recognizing the need for an education which should especially prepare the rising generations for an intelligent and successful practice of those vocations which are followed by ninety-seven out of each hundred of its citizens, the first institution endowed and put in operation by the State was its Agricultural College, so named because of the fact that agriculture is, both numerically and actually, the chief of these vocations. The title, "Agricultural" College, is apt to mislead those who are not familiar with the above fact, and also with the further fact that the acts of both Congress and of Kansas provide for an "industrial," as distinguished from a "professional" education. And every semi-occasionally some exceedingly brilliant genius will triumphantly announce his discovery of a mare's nest by shooting off the original conundrum, "Why, Mr. Speaker, is telegraphy, or printing, or dress-making taught in our Agricultural College?" The answer to which is that woman is entitled to such an industrial education as will enable her to earn a living, and, accordingly, that these trades are taught for her benefit, in accordance with the design of Congress.

ENDOWMENT.

The endowment received from the United States Government consisted of 81,601 acres of choice land, all of which had been sold at date of last report, except 31,461 acres now on the market. The proceeds from the sale of lands are invested in school bonds, and the securities in hand amounted to \$238,101.28 by last report. The annual income from this endowment is about \$20,000, out of which all expenses of instruction are paid. The only aid received from the State is for the erection of buildings, in accordance with the conditions of the congressional grant. This is the only one of the State's institutions which is not dependent upon the tax-payer for its maintenance.

LOCATION.

It is situated one mile from Manhattan, Riley county, one hundred and twenty miles west of the Missouri River, in the heart of the great central valley which runs through the finest agricultural State in America. The Kansas Pacific Railway, with its connecting lines, gives speedy communication with every quarter.

COURSE OF STUDY.

The course of study is shaped with direct reference to giving an industrial as distinct from a professional education. It makes the pupil intelligent and expert in the use of the English language; in the use of numbers as employed by the farmer, book-keeper and engineer; and in the use of lines as employed by the carpenter, painter and architect. Words, figures and lines are tools which all men use. It then gives thorough instruction and laboratorial or field drill in the following sciences as essentially useful to an intelligent and successful farmer: Physiology, Practical Agriculture, Natural Philosophy, Botany, Entomology, Practical Horticulture, Landscape Gardening, Inorganic Chemistry, Organic and Analytical Chemistry, Surveying, Geology, Mineralogy, Zoology, Meteorology, Agricultural Chemistry, Political Economy, Practical Law and Logic. It has an equally practical and effective course for the education of woman as a woman, instead of as a man, and as a worker instead of as a butterfly. Then, it has a well-stocked farm and nursery, and well-equipped shops, for giving boys practice in farm and nursery work, and in wood and iron work, and for giving girls drill in dress-making, printing, telegraphy, carving, engraving and music.

Kansas' Onward March.

On the occasion of the recent visit of Maj. Morrill, of Hiawatha, to Troy, we had the pleasure of a long talk with him, from which we gathered a large amount of valuable information, tending not only to confirm the prosperous condition of Kansas, but showing that she stands higher in the estimation of eastern business men than has generally been supposed. Maj. Morrill, being the head of a large banking house, has extensive correspondence with bankers and capitalists all over the country. He also possesses a wide acquaintance throughout the East, and is a shrewd observer. In addition to his banking business, he is the agent for the sale of immense quantities of land in this State. All these things combined make Maj. Morrill good authority upon matters that he spoke of. The immigration pouring into Kansas is simply enormous. A colony of four hundred families will soon settle on the Central Branch railroad lands, chiefly in Marshall and Pottawatomie counties. This represents about two thousand souls, to a comparatively small section of land. Maj. Morrill says that he has recently figured up the amount of lands he has disposed of within the past for or five months, and it averages just *eight hundred acres per day* during that time. These lands are all in northern Kansas, and mostly sold to persons who intend becoming actual settlers. The total amount would be 12,000 and represents 750 quarter sections, or that number of heads of families who are coming to Kansas to make themselves homes. In other portions of the State, an equal degree of activity prevails. Maj. Morrill thinks (and we believe he is correct) that the immigration to Kansas now reaches fully 100,000 a year, and that the census of 1880 will show this State to have over 1,000,000 population. Maj. Morrill says that when he was East last summer, he met a wealthy gentleman who had a large amount of money to invest. He said the East seemed to be going down, and he preferred western securities, where the country was going up. He asked Maj. Morrill if he could not invest a few thousand for him in Kansas on real estate security. The Major agreed to undertake the investments; and since that time he has continued remitting, until now he has \$80,000 invested in Kansas. The hundreds of other capitalists who are investing in the same way would seem pretty conclusive that they regard Kansas real estate as good security. Coming down to a single locality, Maj. Morrill says that the prosperity of Brown county is most cheering. The immigration is considerable and the crops never were better, notwithstanding the grasshoppers. During the years of drought and grasshoppers, it was supposed that the stock of hogs in northern Kansas was exhausted, and that farmers would have to purchase breeders to restock their farms; but he says that there are more hogs in Brown county to-day than ever before, and that this fall's crop will be immense. We have here given the observations of one person. It is a fair average of the entire State. The most enthusiastic Kansan never dreamed that our State would so soon be running Iowa and Missouri so close a race.—*Troy Chief*.

The Grain Yield of 1877.

The grain crop of the United States this autumn is a vast increase over that of any preceding year in the history of the country. It amounts in the two principal cereals, wheat and corn, to 325,000,000 bushels of the former, and 1,280,000,000 of the latter, according to the careful estimates of Mr. Walker, the statistician of the New York Produce Exchange. The movement of this enormous crop has just begun to be felt, as up to the past eight weeks the exportations were of last year's crop; but the sudden increase already noted gives good promise of a golden future. During the brief period mentioned, our exports of wheat from the ports of New York, Montreal, Boston, Philadelphia, Baltimore, New Orleans and Portland have aggregated 11,525,188 bush-

els, against an exportation from the same ports during a corresponding period of last year of 3,938,951 bushels, showing an increase of 708,234 bushels in the exportation of rye during the same time, and in peas an increase of 81,409 bushels. In corn alone has there been a falling off to the extent of 1,633,054 bushels in that time.

To arrive at the amount of corn sent abroad, it is proper to count that which goes in the compressed form of pork. Our annual hog product exportation is about 4,000,000 hogs. As it takes about fourteen bushels of corn to fatten each hog, that will be equivalent to about 56,000,000 bushels more of corn to be added to the exports annually, as sent in the form of animal food.

We also send a great deal barreled up in the shape of whiskey.

The receipts of wheat at western lake and river ports—Chicago, Milwaukee, Toledo, Detroit, Montreal, St. Louis and Peoria and Duluth—during the four weeks ending October 6, from the new crop, were 13,099,375 bushels against 7,157,597 for the corresponding period of last year, showing an increase of 5,941,778 bushels. The shipments from those ports in that time were 11,024,058 bushels, an increase of 4,800,680 bushels over the corresponding period of the year before. California has been, this year, an exception to the rest of the country. Her crops have fallen off. Between July 1 and September 24 of this year, her exports of wheat were 4,011,000 bushels less than during a corresponding period of 1876.

That the alarm usually expressed over the probability of other sea-board cities taking away our grain trade has not been altogether baseless, seems pretty well demonstrated by comparison of the figures of their receipts and ours, during the period of activity in movement of crops to the sea-board last year and this, between May 1st and September 1st. Last year the receipts of flour and grain at Boston, Philadelphia and Baltimore during that time amounted to 34,748,993 bushels; at New York to but 38,657,168. This year, during the corresponding time, these ports received 23,212,381 bushels and New York 31,323,315 bushels. From that showing it appears that, while both have suffered a decrease, New York receipts have fallen off only 7,333,853 bushels while those of the other ports named have declined 11,536,612. The records of receipts show that the water routes bringing grain and flour to this port have held their own within about 24,000 bushels, and that the falling off has been in receipts by rail.

The increase in England's importation of breadstuffs from this country in the year ending Aug. 31, 1877, amount to almost as much as the average of her importations during the ten years preceding. Of corn alone she took out 33,000,000 bushels. Her total importation was about 80,000,000 bushels, of which 60,000,000 were from this country, and 20,000,000 from Southeastern Europe. The importation of corn into Germany, France and the United Kingdom promises to increase largely, as of late years a general tendency to resort to it as food for stock, instead of oats and cut feed, has been manifest. It is found to be one-third cheaper in England than the material hitherto employed for that use. Germany's supply will, however, be drawn mainly from Hungary.—*New York Sun*.

Our Uplands.

It has been but a few years since the experiment of farming on uplands was first tried. For a long time strong doubts were entertained as to their productiveness. An opinion prevailed that upon the high prairie corn could never be grown with profitable results, and many well-informed people claimed that small grain and, in fact, no cultivated vegetation would ever prosper. At last the test has been thoroughly made and all these doubts have been dispelled by uncontradictable facts. The wheat crops of 1875 averaged even better upon the high land than in the bottom, and other crops yielded a good return. This year has

brought them into still higher favor. The wheat, on account of the continued rain, was equally poor on both upland and bottom, but corn in every case where thorough cultivation was given is remarkably good. Oats yielded bountifully and millet always has done well. Soil that has been thoroughly reclaimed from its wild state by the plow and well cared for, has never refused to yield a good return. We do not suppose that any one will claim that the highlands are as rich as the creek bottoms—there is little of this earth's surface that is—but actual test has proven that there are great productive qualities contained in the soil that improves each year with cultivation.

It may now be considered a foregone conclusion that upland farming can be made profitable, and, when we consider the relative cost of the land, equally as profitable as farming in the valley.

There is one thing that was sufficient evidence from the start that the soil of our hills was rich in vegetable producing substances. It is the fact that in spite of the organic substance that has been grown each year, from time immemorial, being burned up and swept away by the wind to enrich the bottoms and sheltered spots, each succeeding year has yielded another covering of rich grass.

It has also been found that trees grow as well upon the hills as they do anywhere, other things being equal. Fruit has done remarkably well, and it is a foregone fact that everything that prospers in this climate can be grown to the highest perfection upon the hills. The experiment of supplying the want of organic matter by manuring, has been tried with good results.—*Exchange*.

THE big crops of the past three seasons in Kansas, together with the splendid exhibit at the Centennial made by this young, growing State last year, are beginning to tell. It is estimated by the State papers and railway companies of Kansas that nearly 100,000 people have made new homes in that State since the close of the great exposition. As a rule they are bringing more money with them, paying cash for lands, and represent the best social, business and agricultural character of the land from which they come. And the best of all is, there are no "grasshoppers," no "hotwinds" or "drouths" for the grumblers to howl about.—*Chicago Advertiser*.

THE Philadelphia *Record* notes that the foreign demand for goods in and around that city is so great that many mills are running on double time. The manufacturers of textile fabrics report that the increase of business within the last few weeks is unparalleled in the history of their industry. Six large mills are under double time. The iron mills are in full blast, manufacturing machinery, car-wheels, locomotives and wrought iron bolts. The boot and shoe manufacturers also report an unprecedented increase in foreign orders.

WE find the following going the rounds of the press as though it was a chunk of wisdom:

The idea of teaching every girl to thump a piano and every boy to be a book-keeper, will make potatoes \$4 per bushel in twenty years.

Does knowing how to play the piano make a woman any less able to cook a meal of victuals, or a man's knowing how to keep a set of books, any less able to grow potatoes. It seems to us not, and that the above is bosh.—*Commonwealth*.

It is some consolation to know that the inventor of the hand organ was arrested for bigamy, fined for throwing ashes in the alley, pestered by book agents, kicked by a tramp, fell through a ladder and barked his shins, bit himself with a strange dog, and was struck by lightning in the last year of his wicked and heaven-defying life.—*Burlington Hawk-Eye*.

THE average slope or descent of Kansas is seven and one-half feet to the mile, from northwest to southeast.

THE INDUSTRIALIST.

SATURDAY, NOVEMBER 10, 1877.

JNO. A. ANDERSON, Managing Editor.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE *School Galaxy*, of Marion Center, states that a London gentleman has recently purchased some Duchess cows from the Durham Park herd, paying the snug sum of \$90,000; whereupon the *Galaxy* very properly plumes itself upon the importance of Marion county, and glories in the profit made by Major Crane. Good.

At last accounts Noble L. Prentiss was in Washington, ransacking the Congressional library for material for a magazine article. He expected to arrive in Topeka by the fifteenth, and prepare for publication a book containing his European letters and other writings. It will "take" like wild-fire, and we are in for the book.

THROUGH inadvertence we have failed to call attention to the *Western Review of Science and Industry*, edited and published by Theo. S. Case, at Kansas City, Mo. It is a monthly record of progress in science, mechanic arts and agriculture, sixty-four pages, octavo, price \$2.50 per annum. It is carefully edited and well gotten up typographically.

Press Changes.

Washington county: E. N. Emmons, an experienced editor, starts the *Washington County Sun* at Hanover. It takes the place of the *Independent*. Please X.

Edwards county: Milbourne M. Lewis, editor, and F. P. Hallowell, publisher, have started the *Valley Republican*, at Kinsley. It is a twenty-eight-column paper, and looks down upon the greater portion of the State from an altitude of 2,226 feet.

Shawnee county: S. A. Felter, editor, and George W. Martin, publisher, have begun the publication of the *Educational Calendar*, a monthly devoted to the educational interests of Kansas. It is a twelve-column folio, with the columns a quarter wider than is usual in news work. Typographically, it can't be beaten; and, editorially, it is compact common sense bristling with keen points.

THE *Educational Calendar* will be heartily welcomed by the friends of education in this State, first because of its pith and worth, and, second, because of the line it proposes to follow. It says:

"This paper is not to be filled up with educational essays on some school-master's hobby, but will be an educational news paper, brimful of pointed, practical suggestions, not for the teacher and school officer alone, but for every parent and friend of popular education.

"The charge is made, and with apparent justice, that most of the educational papers are published in the exclusive interest of school-book publishers, teachers and college professors, and that the patrons of the schools are not properly represented. We propose to give fair play to all, without fear or favor, and we respectfully ask the county superintendents to aid us in circulating our paper among the patrons of the schools as well as among its teachers."

Nobody can make a better expenditure of twenty-five cents than by subscribing for a year's *Calendar*; while to teachers and school officers it will be of especial value on account of its general matter, to say nothing of the "State Superintendent's Column" with its news and rulings, nor of the "Answers to Correspondents." It will be a permanent institution as well as a valuable one, and, like all true Kansas products, will be different from and better than those of other States. Typographically, it is a perfect beauty.

That Chap Again.

When a chap rushes around lively with an emphatically told story concerning the truth and importance of which he gesticulates like an enraged jumping-jack, generous-hearted people are disposed to accommodate him by believing it,—not so much because caring a straw about the story, one way or another, but rather as a smiling and benevolent contribution to his general stock of happiness. If there is any way in which even a stingy man is inclined to be liberal, it is in the way of believing statements upon subjects about which he is wholly indifferent; and there are oceans of that sort of generosity in this world.

It is this noble and open-handed benevolence upon the part of eastern communities which causes them to be so often gulled by the statements of dead-beats who, having signally failed to thimble-rig a living out of Kansans, seek revenge by lying about Kansas with an earnestness and importunacy that vividly suggest the strut and cackle of an egotistical hen triumphing over a newly-laid egg. Their stories obtain credence very much as a beggar obtains alms, not because of an intrinsic worth or even probability, but because of the big-heartedness of the giver.

In an avaricious and selfishly-disposed world, one naturally hesitates to say anything which may seemingly tend to check the growth of general benevolence—especially in the older States. But, on the other hand, there is no experience which so chills a generous soul as the consciousness that, in the sincerest exercise of what it supposed to be a sagacious benevolence, it had really been imposed upon, "sold." And, therefore, it is a kindness to eastern people when the Kansas press, by placing before them the true facts respecting this State, graciously secures them against the snares and delusions of the cackling chap. Whether they appreciate our goodness in this respect or not is a matter of little importance, since virtue has its own reward.

There are always scores of items floating through our papers of which we think but little, but which, if gathered together, would be a fortress of defense for those eastern folks against that chap's wiles. For example, he opens out the Great American Desert, one side of which he pins to the dome of the State Capitol and hooks the other on Pike's Peak, averring that nothing will grow in that territory except sand flies. And yet, away out in Russell county, Mr. J. W. VanScoyoc's wheat field averaged twenty-seven bushels to the acre; and that county reports 15,000 acres now in fall wheat.

Another of his yarns is that Kansas won't raise fruit; and yet Mr. Barnes, of Douglas county, has just sold six thousand bushels of apples at forty-five cents per bushel, and Senator Wells, of Pottawatomie county, will realize \$6,000 from his orchard. Another is that Kansas is a bad State for hog raising; and yet the *Drovers' Journal* says that "owing to the great excellence of the hogs received from Kansas and Nebraska, buyers are anxious to secure them, as they are almost always healthy, active and well-bred." Another is that Kansas can't raise enough to feed its own population; and yet the National Board of Agriculture estimates the value of our last crop at \$70,000,000 and of the live stock at \$30,000,000 more. Another is that business is depressed; and yet every railroad has a greater passenger and freight traffic than ever before, while every kind of business is more active than for years.

But enough has been said to show the

liberality of Kansas editors in supplying the material with which eastern editors might protect their readers against the importunate beggings of that chap for belief. Whatever may be the sufferings of their people, our craft, at least, can royally robe themselves in the consciousness of having done full duty.

English Surnames.

Why is one family called Smith and another Webster? The answer to this question leads us to inquire into the origin of English surnames. Our remote ancestors, like the savages of the present day, were satisfied with one name. Surnames were first taken up by families of high rank about the time of the Conquest (1066). Family names were not known among the lower classes until the fourteenth century. These names were at first written over the christian names, *supra nomina*—names above; hence, the term surnames. Says an ancient English writer: "Touching such as have their surnames of occupations, as Smith, Taylor, Carpenter, Cook, and such others, it is not to be doubted but their ancestors have first gotten them by using such trades, and the children of such parents being contented to take them upon them, their aftercoming posterity can hardly avoid them; so in time cometh it rightly to be said:

'From whence came Smith, all be he knight or squire,
But from the Smith that forgoth at the fire?'"

Smythe may look more aristocratic than simple Smith, but it is traced back to the same honorable occupation. Webster was feminine for weaver in Saxon. Probably some noble woman skilled in that useful art came to be known as the weaver—webster—of an English village, and thus gave rise to that surname.

The word *son*, or its equivalent in other languages, enters into the composition of many names. From Harry we have Harrison, Harris, probably Hawes, and, with *kin*, Hawkins; from Richard, Richardson, Richards; and from Dick, Dickson and Dixon; from Nelly, Nelson, etc. The Welsh for son is *ap*. Individuals were identified thus: Thomas ap Thomas, ap Richard, ap Evans, ap Jones, etc. In modern surnames the *a* is dropped, and the *p* is joined with the following word. Thus, ap Henry becomes Penry, Perry. The Norman French for son is *fitz*; hence, we have Fitzwilliam, Fitzhugh. In Irish *Mac* means son, and *O*, grandson; hence, McConnell, O'Donahue.

Many of our surnames can be traced to the Normans. Those commencing with *de* (of) designated places, as DeQuincey, DeForest. Those commencing with *le* or *la* (the) designated offices, as LeSpencer, from LeDispencier, now Spenser. De la Chambre has dwindled to Chambers in England and Chalmers in Scotland.

Benjamin is pure Hebrew, meaning *son of my strength*. It appears in a shorter form as Benson; and Solomon is sometimes found as Salmon. Nearly all the languages spoken by the people with whom the English have become acquainted have contributed to our stock of surnames.

Surnames are often created through the ignorance of some individual who has inherited an ancient and honorable name. Thus, Cuyler in the East becomes Kiler in the West.—Prof. Ward.

Fruit Culture.

We are glad to acknowledge the receipt of the address of the Hon. Marshall P. Wilder, President of the American Pomological Society, delivered at its sixteenth session, in Baltimore, Md. President Wilder will also please accept our thanks for the beautiful engraving which recalls to mind so vividly his honored self. There are several points touched in this address which should be well weighed by all who are interested in

tree and fruit culture. We select the following because of their intrinsic value:

Much of our progress in pomology and horticulture is due to the increase of facilities for transportation afforded by railroads and steamboats. Especially is this the case in the Southern and Western States, and California. These railroad and steamboat facilities have induced fruit growers to increase their products, being assured they would arrive in good condition in distant markets. But these improvements in transportation would have been of but little advantage had they not been supplemented by careful packing. Steamers and cars are now provided with large refrigerators, by which delicate fruits can be sent long distances, even to Europe. The various styles of fruit packages, every class of fruit being provided with one suited to its character, are wonders of cheapness and efficiency. The obstacles with which we formerly had to contend have been mostly removed, so that fruits can be sent safely to very distant markets, where it was impossible to send them ten or fifteen years ago. This increased supply has increased consumption and caused a corresponding decrease in prices. It has made fruit almost a necessary portion of our daily meals, thus largely fostering its production. The packing of trees has also received more attention than formerly. Experience has taught us much on this point, especially in adapting it to the character of the voyage and the climate through which the trees are to pass. Thus, trees shipped by our friends, Ellwanger & Barry, to Australia, after a voyage of fifteen thousand miles and being one hundred and fifty-three days on the way, were received in safe condition. Only three trees out of one hundred and sixty were dead.

In this connection I desire to impress on the packers and shippers of fruit to foreign lands, since our best American apples have sold in London at much higher prices than English and French apples, the great importance of especial vigilance in seeing that no inferior fruit ever cross the ocean, thus preserving the integrity of our fruit growers and dealers, and the reputation of our nation for the superiority of our fruits.

England esteems American apples above all others. As long ago as 1773, when the crop of apples had failed the previous year, English importations from this country had been made and were highly appreciated. In a letter from Michael Collinson to John Bartram, of Philadelphia, he writes as follows: "Your American apples have been an admirable substitute this season, some of our merchants having imported great quantities of them. They are, notwithstanding, too expensive for common eating, being sold for two pence, three pence, and even four pence an apple. But their flavor is much superior to anything we can pretend to, and I think even superior to the apples of Italy."

The growth of our foreign fruit trade can be seen from the following:

With reference to the demand for dried fruits the consumption is rapidly increasing, and if dried peaches can be furnished at as low prices as apples, the demand, it is thought, will be very great. Of dried fruits there were exported for the year ending June 30, 1877, 14,318,052 pounds. Of preserved and canned fruits, especially peaches, there have been exported 762,344 dollars' worth in the year ending June 30, 1877. The trade for these is well established and the demand is constantly increasing. Although the exportation of fruit has been going on quietly for a long time, it was not large till the year 1865; but since that time the trade has been rapidly developed. These exports have varied much in yearly amounts, occasioned by scarce or abundant seasons. In 1861 the amount was only \$269,000. In 1871 it was \$509,000, while for the year ending June 30, 1877, it amounted to \$2,937,025, as kindly furnished by Dr. Young, chief of the Bureau of Statistics—showing an increase of more than fivefold for the last five years.

From the stand-point taken by President Wilder, it is easy to believe that intelligent fruit culture can scarcely be overdone. But we are not hence to infer that those who rush without proper preparation into this business will necessarily make money. There is probably no business requiring more unwearied attention and studious, patient work than that of fruit culture.—Prof. Gale.

THE INDUSTRIALIST.

SATURDAY, NOVEMBER 10, 1877.

We have had lots of weather this week.

Edition this week, as it was last, fifteen hundred.

New students arriving every week, the last one from Cowley county.

The bids for wood and coal were opened last week, and contracts made accordingly.

The *Nationalist* says that "turkeys are beginning to roost high." How did it make that discovery?

We will send the *INDUSTRIALIST* for one month without charge to any person desiring sample copies.

We will send the *INDUSTRIALIST* to teachers and clergymen at reduced rates, made known on application.

Capt. Todd has returned from his attendance upon the Episcopal General Convention, recently assembled in Boston, having had a very pleasant trip.

The annual meeting of the State Horticultural Society will be held at Parsons, December 11-13. The usual reductions are made by railroads and everybody is invited to attend.

By last month's examination it appears that fifteen of our students stood in the first rank, grading above ninety-five; and thirty-five in the second rank, grading between ninety and ninety-five.

Oh, my! The *Nationalist* says "these twenty-cent silver pieces are a nuisance." About how many cart loads of that coin do you gentlemen happen to have? We will give you gold for them, if delivered by the cart load,—can't be bothered with less quantities!

The people of north-eastern Kansas are becoming enthusiastic over the temperance question. Quite a number of Divisions of the Sons of Temperance have lately been organized in that part of the State. John A. Allen, P. G. W. P., sends us word that last week he instituted a Division at Hiawatha with ninety-three charter members, eighty of whom were initiated the first night. This bids fair to be the largest Division in the State. The Sons of Temperance have gone in to win this year, and we believe they will do it.

The Manhattan *Nationalist* has been enlarged to a sixteen-column paper—formerly twelve. It is one of the handsomest and most ably edited papers in the State. May it continue to grow.—*North Topeka Times*.

What's the matter, Frank? We publish a forty-eight-column paper, and enlarged away last January.—*Nationalist*.

Yes, and a first-rate one; but it is our general impression that we know how to fix that item,—just pass it over this way.

The students have manifested a greatly increased interest of late in their Friday evening prayer-meeting. The subject treated a week ago was that of "Hope," and last night "Christianity in every-day life" was the subject under consideration. Prof. Platt leads the meetings, and the students are very thankful to him and President Anderson for their answers to the difficult questions which are continually coming up in the young christian's mind, and for the removal of the doubts and fears which many entertain. B.

Mr. Burt Hayes, whom many of the students remember as the pleasant young man who came into our midst from New York a year or more ago, and who had consumption in its worst form, died at Capt. Todd's boarding house on Wednesday morning, Nov. 8th. Mr. Hayes had been an invalid for many years; his life had been a checkered one; and while all felt pained at the loss of so kind and genial a friend, and such an exemplary christian, yet all realize that for him to be thus freed from his sufferings and his emaciated and diseased body was the best fortune that could happen him.

The Webster Society met last Saturday evening in Telegraph Hall. After the opening exercises, Mr. J. B. Patton was elected a member of the Society, and Messrs. McClure, Storch and Burr were initiated.

After a spirited debate it was decided that our present system of electing officers by electors should be abolished. Extemporaneous speaking ensued with the usual interest, after which Mr. J. G. Eckman declaimed, Mr. Salter read an essay, and Mr. A. F. Dickson read a selection.

The name of Mr. Tully Scott was proposed for membership. The question selected for debate at the next meeting reads: "Resolved, That men of thought have done more for the good of mankind than men of action." The speakers on the affirmative are Messrs. Godfrey, Todd and Burr; on the negative, Messrs. Salter, Harvey and Storch. All students are invited to attend. REPORTER.

Mr. Albert Griffin, editor of the *Nationalist*, has been doing very effective work for the temperance cause, and closes an account of his lecturing tour with these sensible words:

In conclusion, we will only add that our experience on this trip has strengthened our conviction that earnest and intelligent efforts to induce men to quit drinking will never fail to do good. Denunciation of saloon-keepers and others who do not agree with us, be they ever so eloquent, makes no converts to the cause of total abstinence; but candid arguments, proving that the habit of drinking is a dangerous one to those who indulge, appeals to moderate drinkers to make the sacrifice (if they consider it such) for the sake of suffering humanity—to help save the millions of inebriates and their wives, children and friends from woe—it will never be in vain. We verily believe that if all temperance men would discard the gospel of force and, lifting high the banner of peace on earth and good will toward men, earnestly persuade men to enlist under it, drunkenness and the unnumbered woes that follow in its trail would, before many years, be almost banished from our land.

The *INDUSTRIALIST* has received a letter from the irrepressible Harry Rushmore. We condense it make extracts as follows:

Joe Williamson is succeeding finely as a teacher, and has a good school. Saw Ralph McBride and L. B. Rogers not long since. "Mc" appeared as smiling as ever. Rogers we hardly knew; he was on his way to St. Louis. Al Copley is at home. He is making money with his bees, we hear. That must be (es) lazy way to make money.

The prospects for an extensive crop of wheat are most satisfactory. Our corn crop will be one hardly ever surpassed for quality, and the yield will certainly be an average one. New corn now a slow sale at eighteen cents a bushel. Potatoes have "quick sales and small profits" at fifty cents per bushel; and the crop is a poor one. The fruit crop is one of unusual abundance. Apples of the finest varieties can be purchased for fifty cents a bushel.

Not long since, two of Manhattan's "brightest lights" concluded that a journey to Lawrence would be a first rate project. In course of time, they arrived at our house. But alas! their noble beast of burden was suddenly taken ill in the gastric region. Hours of anxiety and suspense were passed, and still the animal lingered. The boys could not stand by and see her die, and so concluded to leave on the next freight train; but before they could get away Polly's spirit passed into Horsedom. Cause a kolic. A. J. Pillsbury and W. S. Elliott are the "lights" referred to.

Why is it that so few of the students write for the *INDUSTRIALIST*? Accept best wishes for the advancement of the College.

Friday, Nov. 2d, the Alpha Betas convened as usual. The names of Misses D. M. Kinsey and E. Parish were proposed for membership, and C. J. Reed was initiated. Officers-elect, as given in our last report, duly installed with the exception of President and Secretary, who were detained on account of sickness. By the regular debate it was shown that hope exerts greater influence upon man than does fear. Instead of the usual exercises of declamation, essay and select reading, the second number of the *Gleaner* was read by Gracie Parker and A. H. Stiles. The anticipations of all were fully realized in this issue. We were particularly interested in Miss Gracie's history of Professor Platt's "ark," which once served as an army ambulance. Miss Nena Wilson and George A. Gale will present the next number of the *Gleaner* in two weeks. There were some very creditable impromptu speeches, especially one on "Industry." Under miscellaneous business, A. T. Blain was granted a withdrawal card, being obliged to retire on account of other duties until next term.

Question for debate next week: "Is man justifiable in disobeying the laws of his country which he believes to be morally wrong?" Debaters for affirmative, J. Lewin and W. H. Sikes; negative, C. J. Reed and A. A. Stewart. S. H. W.

NATIONALIST ITEMS.

The trees along the Blue and Kaw are still quite green, a fact which we have never seen before in the second week of November.

How about the Pound? The streets are full of horses running loose, and the cows go on foraging expeditions up and down our business streets.

The annual meeting of the Riley County Bible Society will be held at the Presbyterian church, Sunday evening, Nov. 11th, at 7 o'clock. Rev. J. J. Thompson, State agent, will address the meeting.

The first freeze came Sunday night. Until then we have not had a frost to kill the tender maderia which cover the piazzas, or the budding plants, verbenas, pansies, petunias, mignonette, etc. Now the yards will look dreary for months, but at most of the houses the beauty has been transferred from the gardens to the house windows.

Why don't the market men bring celery? It is exceedingly healthy, very delicious, and in great demand everywhere. It is better for the nerves than valerian, and will give to sleepless people a good night's rest. As good markets as we have, we are surprised that this vegetable cannot be procured in the city.

Instead of being too dry for locals, the rain has washed every item of news away, yet we wish to rise and modestly express that our city furnishes better local papers than any other in the State. If anything does happen in the city or country, and a person who takes our three wide-awake papers—*Nationalist*, *INDUSTRIALIST* or *Enterprise*—is not informed of the transaction, it is because he is blind and can't get any one to read him the news.

PRESS NOTICES.

The *INDUSTRIALIST* has been enlarged. President Anderson fills it with excellent thoughts every week.—*Winfield Courier*.

The *INDUSTRIALIST*, the neat, spicy little paper published at the State Agricultural College, has lately been enlarged a column to the page. It is one of the best printed papers in the State, and does credit to the printing department of the College.—*Iola Register*.

We are pleased to notice the appointment by Governor Anthony of Mr. T. C. Henry, of Abilene, as Regent of the Agricultural College, to fill the vacancy made by the resignation of Lieut. Gov. Salter. Mr. Henry is popularly known as the wheat king of Kansas; and with his thorough knowledge of practical agriculture and all business connected with farm life, he will no doubt fill the honorable position with credit to himself and the institution.—*Spirit of Kansas*.

The little *INDUSTRIALIST*, of the Agricultural College, has grown out of its old clothes and gained a new and larger suit. The *INDUSTRIALIST* was, before this change, a perfect model of a newspaper, but now it is a perfect paper, and with a few more years growth will be as big as anybody. We believe it is inclined to be aristocratic. At least it dresses a la mode, and, metaphorically speaking, carries a gold-headed cane and steps off with an air of great importance.—*Jewell City Diamond*.

DIRECTIONS TO APPLICANTS.

TERMS OF ADMISSION.

Candidates for admission must be fourteen years of age, and pass a satisfactory examination in reading; arithmetic, through decimal fractions; and English grammar, to syntax. Classes are started at the beginning of each year in Drill in Arithmetic and Drill in English; and the pupil must have the knowledge above indicated, else he will be unable to retain position if admitted.

Pupils will be received at any time during the year, if able to pass an additional examination upon the subjects studied by the classes which they expect to enter. But they will find it greatly to their advantage to be present at the opening of each term, or as soon thereafter as possible.

GRADES.

Both the Literary and Industrial recitations are graded daily upon a scale of 100; and an examination of all classes is made at the close of each month. A student not attaining an average grade of sixty is promptly dropped to a lower class, or excluded from the Institution until able to do so. The work of grading is strict and uniform in all the departments, and this process is rigorously used for sifting out incompetent and indolent pupils; thus more than accomplishing all that is designed to be effected by a "high standard of admission." Hence, the student's continuance in the College wholly depends upon his own action. The course is based upon the determination to make the labor required in the preparation of one industrial and three literary recitations as much as the average student can perfectly perform, in ten hours a day. We design to give the pupil the worth of the time expended at College; and, in order thereto, he must do a full day's work with brain or hand. Only those students who can maintain a standing of ninety in each study will be allowed to take more than the prescribed number of recitations; and no one will be permitted to have less than one industrial and three literary recitations.

RELIGIOUS.

Unless otherwise directed by parents, students are required to attend chapel at 8:30 A. M. on academic days, and divine service once every Sabbath.

EXPENSES.

There are no charges whatever for enrollment, attendance or instruction in the regular courses; nor are there any "contingent fees" for the repair of buildings, for the use of books or apparatus, for diplomas, or the kindred privileges usually grouped under the term "contingent." Male students are furnished instruction, the use of apparatus, instruments or tools, in both the literary and industrial classes marked out for them, without any charge. And the same is true of female students in the regular classes provided for them. Printing and Telegraphy are industrials primarily provided for the education of female students, and male students taking either of these are charged \$1 per month for use of instruments.

Instrumental music is a fine art or "accomplishment," rather than a mechanical art. We do not place it among our "industrials" in the same sense, or for the same purpose, that we do those provided for teaching the trades. Accordingly, a fee of \$12 per term, or seventy-five cents per week is required from female students for tuition and the use of pianos or organs.

The only charge made for material in either the literary or industrial departments is for the chemicals used by students in laboratory practice, which are furnished at wholesale prices, and amount to but a small sum.

Furnishing an absolutely free education is as much as can be reasonably asked; and the Institution neither boards, clothes, nor supplies the student with text-books. Boarding can be obtained in private families at from \$2.75 to \$4 per week. Washing costs from seventy-five cents to one dollar per dozen. Text-books, which can be procured in Manhattan, cost from \$2 to \$5 per term.

No student need expend over \$5 per week; and many of our best pupils are living at \$1.25 per week. Students desiring to "board themselves" can do so at from \$1 to \$2 per week. In a club of four young men, renting a house, the average cost to each for the term was \$1.11 per week.

LABOR.

Manual labor by the students may be for either of two purposes: First, to acquire skill in a given art; second, to earn money. In the first case, the labor is educational; in the second, it should be paid for by the party benefited.

EDUCATIONAL LABOR.—Manual labor in the recitations of the Industrial Departments, like mental labor in those of the Literary Departments, is purely educational and will not be remunerated. While the interest of the student will be held paramount in the direction of this labor, the practice necessary to dexterity will be required.

REMUNERATED LABOR.—When the Institution needs labor on the Farm or elsewhere which is not educational, but simply for its own profit, and which a student is able and willing to perform, it becomes an employer instead of a teacher, and he an employee instead of a scholar. It pays for work, he works for pay. The relation between them is commercial, not educational; and both parties must act upon business principles. Hence, the College furnishes only such employment as is own interests require, and will pay according to the

value of the service rendered at from seven to ten cents an hour.

AMOUNT EARNED.

It is impossible to predict how much a given person can earn, since that depends upon what he can do and what work there is to be done. Hence, it is wholly impossible for us to answer the question so often asked: "Do you think I can meet my expenses by work?" Some students make one-half their expenses, some the whole, and exceptional men have made more than expenses. As a rule, a faithful boy skilled in farm work can earn half his expenses on the Farm or in the Nursery. During the year he can ordinarily acquire sufficient skill in the wood or iron shops to enable him to make articles for sale. The whole question is one for his own consideration and decision. We can teach all who come, but cannot absolutely promise anything more. Hitherto we have refrained from holding out strong inducements respecting the amount of labor we might have to offer; but in view of the fact that during each of the last three years we have had more to do than the students could perform, we are inclined to give greater and positive encouragement on this point. Any boy who is in dead earnest, who is familiar with farm operations, and who can raise \$50 to start with, should be able to carry himself through the four years' course. And certainly this places an education within the reach of every determined boy. As yet we are unable to offer similar advantages to girls, not requiring labor in the College departments which they can perform.

TO NEW STUDENTS.

Bring the text-books you have been using. On arrival, first arrange for your boarding. A. A. Stewart, Sup't Printing Department, will furnish information, either by letter or on application, concerning boarding places or rooms for rent. Report to the President at 8:30 A. M., immediately after chapel, for enrollment.

For further information apply to Jno A. Anderson, President, Manhattan, Kansas.

LITERARY SOCIETIES.

ALPHA BETA.—Chartered, December 26th, 1870. Meets in College building every Friday at 2 P. M. Ladies admitted. New students cordially invited to attend. AMOS E. WILSON, President.

WEBSTER.—Chartered, January, 1871. Meets in Telegraph Hall every Saturday evening. Visitors, especially students, always welcome. IRVING TODD, President.

A. N. GODFREY, Secretary.

RAILROAD TIME-TABLE.

KANSAS PACIFIC RAILWAY.

PASSENGER ARRIVES.

Going East..... 11:15 A. M.
Going West..... 5:05 P. M.

FREIGHT ARRIVES.

Going East..... 5:05 P. M., and 3:50 A. M.
Going West..... 6:30 A. M., and 8:05 A. M.

Passengers with tickets are carried on any of the above-named trains.

GEO. C. WILDER, Agent.

CHURCH DIRECTORY.

BAPTIST.—Rev. S. Pillsbury, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; Prof. M. L. Ward, Sup't.

CHRISTIAN.—Rev. A. D. Goodwin, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School at 10 A. M.; Mrs. A. D. Goodwin, Sup't.

CONGREGATIONAL.—Rev. R. D. Parker, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; Prof. J. E. Platt, Superintendent.

EPISCOPAL.—Rev. J. H. Lee, Pastor. Service at 11 A. M. every Sabbath. Sabbath School immediately after service; Rev. J. H. Lee, Sup't.

FIRST METHODIST.—Rev. R. Wake, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; L. R. Elliott, Superintendent.

SECOND METHODIST (colored).—Rev. J. S. Griffin, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School at 3 P. M.

PRESBYTERIAN.—Rev. Wm. Campbell, Pastor. Services at 11 A. M. and 7 P. M. every Sabbath. Sabbath School immediately after morning service; Rev. Wm. Campbell, Sup't.

Bookseller and Stationer.—S. M. Fox dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127 Poyntz Avenue, Manhattan. 19-3m

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A well selected summer stock on hand. Opposite post-office, Manhattan. 11-26

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier. A general banking business transacted. Bills of Exchange is sued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

The Kansas Publishing House.—A Kansas institution. Celebrated for Kansas productions. The only Kansas House to secure a Centennial award for quality of work. Kansas work, by Kansas mechanics, at this Kansas establishment. Pronounced "faultless."—Felter's series of School Records, made to comply with Kansas laws, by a Kansas author and a Kansas publisher. The best School Officers' Records in the market.—Felter's Elements of Book-keeping. The first Kansas text-book by a Kansas author and a Kansas publisher. Being rapidly adopted by the schools.—The Annals of Kansas, a marvellous history of Kansas, written and printed in Kansas.—The Educational Calendar, a beautiful monthly publication for the Officers, Teachers and Patrons of Kansas schools, for twenty-five cents per annum.—The best Railroad, County, Bank and Mercantile Blank Book work to be had anywhere, all done by Kansas mechanics. Our ambition is to build an establishment for Kansas equal to the best in America.

Address, GEO. W. MARTIN, Topeka, Kas.

THE INDUSTRIALIST.

SATURDAY, NOVEMBER 10, 1877.

The Press on the Agricultural College.

A superior institution of learning.—*Minneapolis Sentinel*.

One of the best of that kind in the State.—*Jewell County Monitor*.

One of the best institutions in the West.—*Lincoln Center Register*.

Is winning a deservedly high reputation. Success to it.—*Leavenworth Press*.

An institution that every Kansas farmer should feel proud of.—*Farmers' Advocate*.

Is the place for obtaining a thorough and practical education.—*Winfield Courier*.

Gives a practical as distinguished from a professional education.—*Yates Center News*.

It has become a valuable educational adjunct to the school system of our State.—*Iola Register*.

One of the reliable institutions of this State, and worthy your patronage.—*Hutchinson News*.

Under the superintendence of able instructors, and offering great advantages.—*Osage City Press*.

Combines the practical with the theoretical in a most satisfactory manner.—*Garnett Plaindealer*.

One of the best conducted schools in the country. Its students all speak well of it.—*Emporia Ledger*.

Those desiring a practical education cannot do better than to attend the "Agricultural."—*Alma News*.

We ought to have a large delegation of boys from Miami county at this College.—*Paola Republican*.

Kansas may well feel proud of her institutions—especially her State Agricultural College.—*Galena Miner*.

Under its present management it is doing that which will ensure us successful farmers.—*Beloit Gazette*.

Every friend of education will wish the institution continued and increased success.—*Concordia Empire*.

They turn out good printers as well as good farmers at the Agricultural College.—*Concordia Expositor*.

The President and the Faculty are doing all they can to advance the interests of the institution.—*Parsons Sun*.

An honor to the State, and will be the means of unlimited good to the rising generation.—*Elk County Ledger*.

All those who wish to obtain a practical education can get it there at very moderate expense.—*Wyandotte Gazette*.

The aim of this College is to teach its pupils just what will be useful to them in after life.—*McPherson Independent*.

Several pupils from this city are now in attendance there, and are well pleased with the institution.—*Dodge City Times*.

Has taken a high position, and is entitled to the hearty support of all friends of popular education.—*Osage Mission Journal*.

An excellent institution, under the care of an able management, and a desirable place to get an education.—*Augusta Gazette*.

Gives such an education to the farmer, mechanic or woman as will enable them to earn a livelihood.—*Chase County Courant*.

Is making its influence felt for practical good, and we recommend it to those seeking a thorough education.—*Burlington Patriot*.

It is the best educational institution in the West, eminently prosperous and deservedly popular with the masses.—*Wellington Press*.

One of the best educational institutions in the West, and should be sustained and kept in a flourishing condition.—*Harvey County News*.

Is becoming deservedly popular, and is entitled to the hearty support of the friends of practical education everywhere.—*Oxford Independent*.

Farmers and other citizens who expect to send their young men or women from home to school, should address the President.—*Troy Bulletin*.

Here the young idea is not only taught how to shoot, but given a practical education in the different sciences of industry.—*LaCrosse Progress*.

The attention of parents who have children they desire to educate away from home, is called to the advantages of this College.—*Neodesha Free Press*.

When selecting a point at which to attend school, it will be well to consider the advantages of the State Agricultural College.—*Blue Rapids Times*.

The College is building up an excellent reputation, and should be well supported, especially by those living in this part of the State.—*Abilene Chronicle*.

The people of the State are learning that it is an excellent place to send their sons and daughters to get a good practical education.—*Larned Herald*.

An old and well-established educational institution, has a full corps of competent teachers, and gives the students a practical education.—*Council Grove Democrat*.

This old and well-established educational institution is among the best in the United States. It has a full corps of competent teachers.—*Jewell County Diamond*.

The result of educating young men at the Agricultural College will be to give the State men who have farming reduced to a profitable science.—*Columbus Vidette*.

This institution is the best in Kansas. The trustees and teachers are working hard to give it a first-class reputation, and it deserves success.—*Parsons Eclipse*.

This is the only school in the State which gives a practical education. All branches of education are taught by the most experienced teachers.—*Lawrence Standard*.

Is rapidly outgrowing the prejudice that has prevailed against it, and is now recognized as one of our most beneficial and creditable institutions.—*Junction City Union*.

No better opportunity for youths who are possessed of limited means to obtain the higher branches of a practical education.—*Eldorado Press*.

Is a credit to any State. Its facilities and course are sufficient for furnishing an education equal to any of the eastern States.—*Cherry Vale Leader*.

Our Agricultural College is a success, and every dollar voted for the extension of its facilities brings a ten-fold return to the State.—*Alma Blade*.

Has taken a place away at the head of State institutions of its class. The leading idea of the conduct of the College is to make practical men and women.—*Wichita Eagle*.

If this institution does not turn out intelligent and practical farmers, it will not be the fault either of the State, or of the instructors and managers of the College.—*New Century*.

There ought to be one thousand students attending the present term of this College, and our country should be receiving some benefit from this excellent institution.—*Ellsworth Reporter*.

It is the only institution in Kansas which gives an education ready for such use by the farmer, mechanic or woman as will enable them to earn their living.—*Junction Union*.

This institution is rapidly growing in popular favor, and is an honor to and the pride of the State. Your children receive here not only a theoretical, but practical education.—*Atchison Patriot*.

The Kansas Agricultural College, at Manhattan, is the place for every boy who can be spared from home. We see the need of good practical farmers every day, and we want more of them.—*Topeka Blade*.

Has attained a degree of perfectiveness in all its various branches that is not only creditable to the management, but doubly so to the State at large. It is meeting with abundant success.—*Garnett Journal*.

Its work is eminently practical and thorough; it prepares the young for the duties and responsibilities of active, every-day life, and affords every facility for educating in the higher branches.—*Wamego Tribune*.

Stands at the head of institutions of its kind for giving a thoroughly practical education. Some of the young men and women of Barton county of whom we know would do well to attend.—*Great Bend Democrat*.

If we had forty boys to educate, we would send them all to the "INDUSTRIALIST'S" College at Manhattan. It is just the place for the growth and development of true, genuine, American citizens.—*Thayer Headlight*.

Parents who wish to give their children a good agricultural or mechanical education could not do better than to send them to the Agricultural College, as it is the best institution of the kind in the West.—*Scandia Republic*.

The equal of any school in the land, and vastly superior, in many respects, to any in the West. Students of limited means especially will find advantages at this College not to be found elsewhere.—*Washington Republican*.

This institution is one of great merit, and its work of usefulness is hardly exceeded by any other institution in the State. Its course of instruction embraces the every-day practical branches.—*Peabody Gazette*.

If you desire to give your children a practical education, one which will qualify them to fight the battle of life successfully, you cannot find an institution in the country better adapted to the purpose.—*Wyandotte Herald*.

This is the only school in the State which teaches practical education,—work on the farm, in the orchard, in the shop, and in the store. All branches of education are taught by the most experienced teachers.—*North Topeka Times*.

Is doing a good work for the State, and as the tuition is free, there is no reason why every person who may wish for practical instruction should not avail himself of the liberal provisions made by the State at this College.—*Lyons Bulletin*.

Its work is eminently practical and remarkably thorough. It prepares the young for the duties and responsibilities of active, every-day life, and besides this affords every facility for education in the higher branches of study.—*Chetopa Advance*.

The INDUSTRIALIST is the best testimony that could be offered establishing the thoroughness of the instruction afforded in the industrial school. The State Agricultural College is winning a deservedly high reputation.—*Atchison Champion*.

It is the best school in the State to secure a practical education, one that will be useful to a boy or girl, no matter what vocation he or she may follow. Its course is particularly adapted for farmers' sons and daughters.—*Chase County Leader*.

This College is probably the best educational institution in the State. The necessity for good farmers and more of them is very apparent. Farming requires a practical education. It has been reduced to a science and is now taught.—*Topeka Blade*.

This institution is rapidly taking rank as the foremost College in the State. Its able corps of teachers are vigilant and active, and the rapid progress which has been made under their management is the best proof of the future prosperity of the school.—*Great Bend Tribune*.

This is probably the best educational institution in the State, combining as it does practice with theory in the every-day routine of study. Scores of young men and women from this county ought to avail themselves of its advantages.—*Ottawa Journal and Triumph*.

Will prove a lasting honor and benefit to the State of Kansas. The College is yearly growing in favor throughout the State and should more than any other State institution receive the patronage and support of farmers and those interested in agricultural pursuits.—*Eureka Herald*.

Offers superior advantages for affording to the youths of Kansas a practical education, one that can be put to use anywhere and every day in the week, and applied in the affairs of every-day life. Each pupil is required to choose some trade, and in that trade he receives special training by a competent instructor, while he also pursues a theoretical course. Thus the hands and the brains are being educated at the same time.—*Neosho County Record*.

Stands at the head of the educational institutions of the West, and is one of the things of which Kansas may well be proud. If its advantages were more universally appreciated, its walls would be filled with young men and women from all over the State.—*Burlington Independent*.

While in Manhattan, in June, we looked over the College grounds and into the faces of some of the Faculty. We have the testimony of students who have been there under instruction. The State is safe in offering its best material to the hand of training and instruction there.—*Valley Falls New Era*.

There are at least fifty young farmers and mechanics in Douglas county who might profitably spend the fall and winter months at the Agricultural College. The State has provided a splendid school there especially for the industrial classes. It will be their own fault if they do not enjoy its advantages.—*Lawrence Journal*.

Both the Regents and their appointees have used all legitimate means, and made every effort, to put within easy reach of the working classes of Kansas exactly that knowledge and physical drill which are of most value to those who expect to earn a livelihood by farming or the other industrial vocations.—*Blue Rapids Times*.

There is always a good situation at hand for the young man or woman who thoroughly understands how to do something that the world wants done. We advise all who are anxious to thoroughly prepare themselves for the earnest duties of the farm, shop or store to attend the Kansas State Agricultural College.—*Osage County Chronicle*.

One of the great institutions of the State, and the poor man's college. Here may be obtained a thorough and PRACTICAL education—a knowledge of the every-day duties of life in its many phases—at a minimum expenditure of money; a knowledge that will be called into play in every business relation of life.—*Russell County Record*.

This first-class institution is known throughout the United States for its extraordinary facilities of educating those who patronize it. We are well acquainted with several parties, both male and female, who are attending this College, and they seem determined to remain there until they have completed their education.—*Howard City Courant*.

Has become just what it was intended to be,—a College for the people. It is an institution that the people of Kansas are proud of, and can rightfully boast that it is, if not the best, among the best of the kind in the United States. It is doing just what Congress intended should be done when the appropriations for such Colleges were made.—*Topeka Commonwealth*.

During that time there were seven students from New York, two from New Mexico, one from Illinois, two from Indiana, two from the Indian Territory, and one from Colorado. Sedgwick county, in the mean time, has only had four students. It would seem from this that the importance of the College as an educational institution is not appreciated by our citizens as it should be.—*Wichita Beacon*.

There are hundreds of young men in Kansas who want a practical education, such an one as will enable them to make a living as farmers, mechanics or business men; but are prevented from obtaining it by the poverty of their parents or by their own lack of funds. The work given to the students by the Agricultural College at Manhattan, will enable those who are in earnest to earn enough money to defray the greater part, if not the whole, of their expenses.—*Neosho Falls Post*.

Vocal Music.—Regular instruction and drill in the science and art of vocal music, without charge. Recitations in these classes are not reckoned as an "industrial."

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Chemistry and Physics.—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography and Household Chemistry.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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Special for Woman.—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc. Special Hygiene, by Mrs. Cripps.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial pursuits.

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Building on this foundation, the special object of the Farmer's Course is to give the student practical knowledge of the structure, growth, and value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, and in the Wood and Iron shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life. The Farmer's Course is the leading one of the Institution.

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